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THE
JOURNAL
OF
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

Edited by

J. R. LOGAN F. G. S.

Member of the Asiatic Society, Corresponding Member of the Ethnological Society
of London, and of the Batavian Society of Arts and Sciences.

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CONTENTS.

I.

A Translation of the Keddah Annals termed Marong Mahawangsa, and sketches of the ancient condition of some of the nations of Eastern Asia, with references to the Malays, by Lieut.-Col. JAMES LOW, C.M.R.A.S. & M.A.S.B.. J, 162, 253*† 314, 467.

II.

Five Days in Naning with a walk to the foot of Gunong Datu in Rambau, by J. R. LOGAN, Esq., F. G. S... 24, 278* 402, 489.

III.

Notes on the Population of Java, by JOHN CRAWFURD, Esq., F. R. S.. .. 42

IV.

A Journey in Johore, by the Revd. P. FAVRE, *Apostolic Missionary*, Malacca.. .. 50

V.

A Contribution to the Ichthyology of Celebes, by Dr. BLEEKER.. .. 65

VI.

Tour from Sourabaya, through Kediri, Blitar, Antang, Malang and Passuruan, back to Sourabaya, by JONATHAN RIGG, Esq., *Member of the Batavian Society of Arts and Sciences*.. .. 75, 193, 235*, 494, 535

VII.

The Mythology of the Dyaks, by the Rev. T. F. BEEKER, *Missionary on the South Coast of Borneo*.. .. 102

VIII.

Pawangs, by the Revd. P. FAVRE 115

† The paging of No. IV (p. 235 to p. 284) having inadvertently been repeated in No. V, it is requested that an asterisk may be added in the latter as far as p. 284

IX.

Mr Freiderich's Researches in Bali.	117
---	-----

X.

The Language and Literature of the island of Bali, by R. FREIDERICH.	119, 235.
--	-----------

XI.

Mr Burn's Travels in the interior of Borneo Proper.	138
The Kayans of the North-West of Borneo, by ROBERT BURNS, Esq.	140

XII.

A Journey in the Menangkabau States of the Malay Peninsula, by the Revd P. FAVRE.	153
---	-----

XIII.

A Vocabulary of the Kayan Language of the North-West Coast of Borneo, by R. BURN'S Esq.	182
---	-----

XIV.

Piracy in the Indian Archipelago, by SPENCER ST. JOHN, Esq.	251
---	-----

XV.

Sketches at the Nicobars	261
------------------------------------	-----

XVI.

The Tortoise Shell of Celebes.	271
--	-----

XVII.

The Manners and Customs of the Malays, by J. R. LOGAN, Esq.	274
---	-----

XVIII.

A few particulars respecting the Nicobar islands, by Revd. J. M. CHOPARD, Missionary Apostolic	271*
--	------

XIX.

Sir James Brooke's Expedition against the Sarebas Pirates.	276*
--	------

XX.

Sago, by J. R. LOGAN, Esq.	288*
----------------------------	----	----	------

XXI.

Funeral of the King of Cochin China..	337
---------------------------------------	----	----	-----

XXII.

A General Sketch of Sumatra, by J. R. LOGAN, Esq.			345
---	--	--	-----

XXIII.

The Battas of Mandheling and Pertibi, by T. J. WILLER, Esq. Assistant Resident at Mojokerto.		366
--	---------	--	-----

XXIV.

The Population of the Indian Archipelago, by SPENCER ST. JOHN, Esq.		379
---	---------	--	-----

XXV

Revenue, Expences and Trade of Rhio.		385
--------------------------------------	---------	--	-----

XXVI

Rough Notes on the Geological and Geographical Characteristics of the Tenasserim Provinces, by EDWARD O'RILEY, Esq...	385
---	----	----	-----

XXVII.

Sulu..	412
--------	----	----	-----

XXVIII.

An Essay on Coral Reefs as the cause of the Fevers in various parts in the East, by R. LITTLE, Esq., Surgeon &c.	413
--	----	----	-----

XXIX.

Pulo Dinding..	450
----------------	----	----	-----

XXX.

Opium Smoking..	454
-----------------	----	----	-----

XXXI.

Is the Opium Trade to China one in which a Christian Merchant can engage?	456
---	----	-----	-----

XXXII.

Mahomedanism in the Indian Archipelago. .	..		457
---	----	--	-----

Why have Mahomedan been more successful than Chris-			
---	--	--	--

tian Missionaries in the Indian Archipelago?

Malay Amoks referred to Mahomedanism.

xxxiii.

Malay Amoks and Piracies. What can we do to abolish them? 464

xxxiv.

The Agriculture of Singapore 508

xxxv.

Essay towards an Account of Sulu, by J. DALRYMPLE, Esq. 512, 545

xxxvi.

Malay Amoks 53

xxxvii.

The Orang Komring 534

xxxviii.

Analysis of the Ancient Annals of Siam 568

xxxix.

The Piracy and Slave Trade of the Indian Archipelago. 581 629.

xl

Destruction of the Fleet of Sarebas and Sakarran Pirates 589

xli.

The Zoology of Singapore, by T. OXLEY, Esq. .. 594

xlII.

An Account of the Origin and Progress of the British Colonies in the Straits of Malacca, by Lieut.-Col. JAMES Low, C.M.R.A.S. & M.A.S.C. 599

xlIII.

General Report on the Residency of Singapore, drawn up principally with a view of illustrating its Agricultural Statistics, by J. T. THOMSON, Esq., F. R. G. S. *Surveyor to Government.* 618, 725

XLIV.

The Languages of the Indian Archipelago, by J. R. LOGAN, Esq :

II. Preliminary Remarks on the Generation, Growth, Structure and Analysis of Languages . . . 637

XLV.

Diseases of the Nutmeg Tree, by R. LITTLE, Esq. . . 678

XLVI.

Gold in Sarawak. Fall of a Portion of Trian, an auriferous mountain, by C. GRANT, Esq. 681

XLVII.

On the Leading Characteristics of the Papuan, Australian, and Malayu-Polynesian Nations, by G. WINDSOR EARL, Esq., M. R. A. S. 682

XLVIII

Remarks on Dr Little's "Essay on Coral Reefs as the cause of Fever" 690

XLIX

Agriculture in Malacca, by F. L. BAUMGARTEN, Esq. 707

L.

Remarks on the Metalliferous Deposits and Mineral Productions of the Tenasserim Provinces, by EDWARD O'RILEY, Esq. 724

LI.

The Island of Mindoro 567

LII

Malay Pantuns. 270, 273

LIII.

Miscellaneous Notices, Contributions and Correspondence:

Letters from the interior of Borneo No. IV..... i-ii

Statistics of Nutmegs..... iii-vii

The Molucca Islands..... viii-xv

Panghulu Kiang..... xvi

The Sarawak Fleet.. . . . xxvi

Casting of a Bell in Burmah* .. . xxviii, ix

Mr Burns's Paper on the Kayans of the N. W. of Borneo..... xxxiii

The Singapore Observatory..... xxxviii

To Our Subscribers .. . xiv

Notices of New Publications received..... xvi, xxx, xlix

* For p. xxviii see back of p. 313.

INDEX.*

A

	Page
Agriculture :	
of <i>Singapore</i> xxxiv..†	508
Statistics of <i>Singapore</i> xliii	618,725
in <i>Malacca</i> xlix	797
Diseases of the Nutmeg Tree xlv	678
Arts and Manufactures :	
Sago xx	286.

B

<i>Bali</i> , RESEARCHES in, ix	117
Language and Literature of, x	119, 235
<i>Battas</i> the, of <i>Mandhelang</i> and <i>Pertibi</i> xxiii	366
BAUMGARTEN, F. L.—Agriculture in <i>Malacca</i> xlix	707
BEEKER, Rev. T. F.—Mythology of the Dyaks vii	102
BLEEKER, Dr.—A contribution to the Ichthyology of <i>Celebes</i> , v. ..	65
<i>Borneo</i> , the Kayans of the N. W., xi.	140
BURNS, R.—The Kayans of the N. W. of <i>Borneo</i> xi	140
A Vocabulary of the Kayan language xiii	182

C

<i>Celebes</i> , Ichthyology of, v.	65
Tortoiseshell of, xvi	271
CHAPARD, Rev. J. M.—A few particulars respecting the <i>Nicobar</i> <i>Islands</i> xviii	271*
<i>Cochin China</i> , Funeral of the king of, xxi	337
CROWFURD, J.—Notes on the Population of <i>Java</i> iiii	42
Agriculture of <i>Singapore</i> xxxiv	508

D

DALRYMPLE, J.—Essay towards an account of <i>Sulu</i> xxxiv..	512, 545
<i>Dayaks</i> , Mythology of, vii	102

E

Ethnography and Ethnology :

A translation of the <i>Kedah Annals</i> &c. ii 1,162, 253* 314, 467	
Mythology of the Dyaks, vii.. ..	102
Pawangs, viii	115
Researches in <i>Bali</i> , ix.	117
Language and Literature of <i>Bali</i> , x	119, 235
The Kayans of the N. W. of <i>Borneo</i> , xi.. ..	140
Journey in the <i>Menangkabau States, Malay Pen.</i> xii ..	135
Vocabulary of the Kayan Language, xiii	128

* N.B. Names of authors in CAPITALS geographical names in *italics*; arts and sciences in *old English*.

† The Roman figures refer to the number of the article in the table of Contents.

Sketches at the <i>Nicobars</i> , xv	261
Manners and customs of the Malays, xvii. ..	274
A few particulars respecting the <i>Nicobars</i> , xviii. ..	271*
Five days in <i>Naning</i> 24, 278,* 402, 489	337
Funeral of the King of <i>Cochin China</i> , xxi. ..	345
A general sketch of <i>Sumatra</i> , xxii.	366
The Battas of <i>Mandhelung</i> and <i>Pertibi</i> xxiii. ..	534
The Orang Komring, xxvii.	637
The Languages of the <i>Indian Archipelago</i> , xlii. ..	

F

FAVRE, REV. P.—A Journey in <i>Johore</i> , iv.	50
Pawangs, viii.	115
Five days in <i>Naning</i> , ii. 24, 278* 502, 489	
FREIDRICH, R.—Researches in <i>Rali</i> , ix.	117
Language and Literature of <i>Bali</i> . x.	235
Funeral of the King of <i>Cochin China</i> , xxi.	337

G

Geography :

A Journey in <i>Johore</i> , iv.	50
of the Tenasserim Provinces, xxvi.	385
Pulo Dinding, xxix.	450
[See <i>Ethnography</i>]	

Geology & Mineralogy :

of the <i>Tenasserim Provinces</i> , xxvi, l.	385, 724
Gold in <i>Sarawak</i> , xlv.	681
GRANT, C.—Gold in <i>Sarawak</i> , Fall of a Portion of <i>Triang</i> , an auriferous mountain, xlv.	681

H

History :

Kedah Annals [see <i>Kedah</i>]	
Analysis of the Ancient Annals of <i>Siam</i> , xxxviii. ..	568
of the <i>British Settlements in the Straits of Malacca</i> , xlii.	599

I

Ethnology :

of <i>Celebes</i> v, 65	
<i>Indian Archipelago</i> , Population of, xxiv.	379
The Piracy and Slave trade of, xxxix.	581, 629

J

<i>Java</i> , Notes on the Population of, iii.	42
Tour from <i>Sourabaya</i> through <i>Kediri</i> , <i>Blitar</i> , <i>Antang</i> , <i>Malang</i> and <i>Passaruan</i> back to <i>Sourabaya</i> vi. 75, 235,* 494, 535	
<i>Johore</i> , A journey in, iv.	50

K

<i>Kayans</i> , the, N. W. of <i>Borneo</i> xi.	140
Vocabulary of, xiii.	182
<i>Kedah Annals</i> , Translation of, by Col. Low, i.,, 1, 162, 253,* 314, 467	

L

<i>Language and Literature of Bali</i> , x.	119,	235
of the Kayans, xiii .....	....	182
LITTLE, R.—An essay on coral reefs as the cause of fevers in various parts of the East, xxviii ..	....	413
Diseases of the Nutmeg tree, xlv. ....	....	678
LOGAN, J. R.—Five days in <i>Naning</i> , ii.	24, 278*, 402,	489
Manners and customs of the Malays, xvii. ....	....	274
Sago, xx. ....	....	288*
A general sketch of <i>Sumatra</i> , xxii ..	....	345
Malay Amoks and Piracies, xxxiii ..	....	46
The Languages of the <i>Indian Archipelago</i> . II. Preliminary Remarks on the Generation, Growth, Structure and Analysis of Language, xlv. ....	....	637
Low, Lieut.-Col.—Translation of the <i>Kedah Annals</i> , i. 1, 162, 253,* 314, 467 An account of the Origin and Progress of the British Colonies in the Straits of Malacca, xlii .....	....	599

M

Mahomedanism in the <i>Indian Archipelago</i> , xxxii .....	....	457
<i>Malacca</i> , Agriculture in, xlix .....	....	707
<i>Malay Peninsula</i> , journey in the Menangkabau states of, xii. ....	....	253
Malay Amoks and Piracies, what can we do to abolish them, xxxiii Amoks, xxxvi ..	....	464
Malays, Manners and Customs of, xvii. ....	....	532
Manners and Customs of the Malays, xvii .....	....	274
Marong Mahawangsa [see <i>Kedah Annals</i>] <i>Menangkabau States of the Malay Peninsula</i> , xii ..	....	274
<i>Mindoro</i> , li .....	....	153
Miscellaneous Notices, liii .....	....	756
Mythology of the Dayaks, vii .....	....	102

N

<i>Naning</i> , Five Days in, ii. ....	....	4, 278*, 402, 489
<i>Nicobars</i> , Sketches at, xv. ....	....	261
A few particulars respecting, xviii ..	....	271*

O

<i>Opium Smoking</i> , xxx. ....	....	454
Trade, Morality of, xxxi. ....	....	456
Orang Komring, xxxvii. ....	....	534
O'RILEY, E.—Rough Notes on the geological and geographical characteristics of the <i>Tenasserim Provinces</i> , xvi. ....	....	385
Remarks on the Metalliferous deposits and Mineral Productions of the <i>Tenasserim Provinces</i> , l. ....	....	724
OLEY, T.—Malay Amoks, xxxvi. ....	....	532
Zoology of Singapore, xli. ....	....	594

P

Pantuns .....	....	270
Pawangs, viii .....	....	115
Piracy in the <i>Indian Archipelago</i> , xiv ..	....	251
Piracy and Slave Trade of the <i>Indian Archipelago</i> , xxxix ..	581,	629
Destruction of the Fleet of the Sarebas & Sakaran Pirates, xl. ....	....	589
Sir James Brooke's Expedition against the Serebas Pirates, xix .....	....	276*

INDEX.

X

Population of the <i>Indian Archipelago</i> , xxiv	379
of Java, iii	42
<i>Pulo Dinding</i> in 1688, xxix	450
Products, Rato :	
Tortoise-shell of <i>Celebes</i> , xvi	271
Sago, xx	288

R

<i>Rambau</i> , A walk to the foot of <i>Gunong Datu</i> , ii	24
Remarks on Dr. Little's Essay on Coral Reefs as the cause of Fever, xlviii	690
Revenue, Expences and Trade of <i>Rhio</i> , xxv	385
<i>Rhio</i> , Revenue, Expences and Trade of, xxv	ib.
Rigg, J.—Tour from <i>Sourabaya</i> through <i>Kediri</i> , <i>Blitar</i> &c. vi . 75, 235*	494, 535

S

Sago in the <i>Moluccas</i> , <i>Sumatra</i> , Manufacture of, in <i>Singapore</i> , Trade, &c. xx	288
<i>Sarawak</i> , Gold in, xlvi	681
<i>Siam</i> , Ancient Annals of, xxviii	568
<i>Singapore</i> , Agriculture of, xxiv	508
Zoology of, xli	594
Agricultural Statistics of, xliii	618, 725
Sketches at the <i>Nicobars</i> , xv	261

Statistics :

Notes on the Population of <i>Java</i> , iii	42
The Population of the <i>Indian Archipelago</i> , xxiv	379
Revenue, Expenses and Trade of <i>Rhio</i> , xxv	385
Agricultural Statistics of <i>Singapore</i> , xliii	618, 725
ST JOHN, S.—Piracy in the <i>Indian Archipelago</i> , xiv	251
The Population of the <i>Indian Archipelago</i> , xxiv	379
<i>Straits Settlements</i> , History of, xlii	599
<i>Sulu</i> , xxvii	512, 545
<i>Sumatra</i> , General Sketch of, xxii	345
The Battas of <i>Mandheling</i> and <i>Pertibi</i> , xxiii	366

T

<i>Tenasserim Provinces</i> , Geology and Geography of, xxvi l.	385, 724
THOMSON, J. T.—General Report on the Residency of <i>Singapore</i> drawn up principally with a view of illustrating its Agricultural Statistics, xliii	618, 725
Tortoiseshell of <i>Celebes</i> , xvi	271

W

WILLER, T. J.—The Battas of <i>Mandheling</i> and <i>Pertibi</i> , xxiii	366
---	-----

Z

Zoology :

of <i>Singapore</i> , xli	594
--	-----

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A TRANSLATION OF THE KEDDAH ANNALS
TERMED MARONG MAHAWANGSA ;

AND
SKETCHES OF THE ANCIENT CONDITION OF SOME OF THE
NATIONS OF EASTERN ASIA, WITH
REFERENCES TO THE MALAYS.

By Lieut-Col. JAMES LOW, C M. R. A S & M. A S B.

THE writings of Leyden, Raffles, Marsden and Crawford did much to dispel the mist, which shrouded the regions of Eastern Asia and the Eastern Archipelago from the gaze of the inquirer after ethnographical and other interesting pursuits, and of late years considerable light has been thrown on the histories of Indo-china, and China, by various writers, either publishing separately, or in the Journal of the Asiatic Society of Calcutta, and we have specimens from the pen of the talented Editor of the Journal in which this paper will appear, which exhibit what may yet be effected by a combination of industry and capacity, when brought to bear on the many barriers which the ignorance and barbarism of the Indo-chinese nations and Eastern islanders, oppose to our progress towards truth.

Much information may now lie concealed in Native manuscripts, but the means for extracting it are but scanty, for few will take the trouble of learning languages for the mere, and doubtful, chance of finding them lead to some desirable literary or antiquarian result. For the examination of the more recondite Pali in all its forms, scarcely any help can be obtained from the Priests or Laity of Indo-china or the

Archipelago. There are no Pundits as in India, ever ready and able to lend their aid to the traveller over the toilsome path of Archeology, while political considerations unfortunately operate too frequently against all research.

The French literati have lately opened a Chinese mine of literary and historical wealth. From the proximity of China to the most ancient nations of Central Eastern Asia, and the long intercourse which has existed between them, we have reason to believe that accounts of the ancient condition of the latter lie now hidden in the libraries of the former. The Pali will not, I suspect, unless where it may occur in Inscriptions, throw any light on the history of any of these regions, or unless perhaps where Pali works, having been written in India, may contain allusions to countries to the Eastward.

The present is merely an attempt to throw into shape and order some of the loose notes I had already made, during a long sojourn to the Eastward, and of journies in various directions. But, from their desultory nature, I have thought it advisable to introduce them as explanatory commentaries on a translation of some original and hitherto untranslated native work.

The one selected for this purpose is entitled *Máring Máháwángsá*; which I have carefully, and as literally as the Malayan idiom has permitted, translated, only leaving out a tedious exordium by the native compiler, quite foreign to his subject, and also those repetitions in which he indulges, like most oriental writers, without reserve.

It is a History of Keddáh on the Malayan Peninsula; and, independently of any intrinsic value which it may possess, it is interesting to the British, since the settlement of Penáng and Province Wellesley once formed an integral portion of the country of Keddáh.

This Keddáh is the Quida of the maps, and a Siamese province, although chiefly peopled by Malays. It is about 110 to 120 miles long, with a varying breadth of from about 20 to 30 or 40 miles at most. It is very fertile in grain. Cattle abound in its plains, and its hills yield rich tin ore, and perhaps gold.

I received the history from the hands of the late Rájá, whose Malayan title was Sultan Ahmed Sájoódín (Aládín), Hálím Sháh, and whose Siamese title was Chău Pangeran, who in an evil hour had been led by bad advice to throw off his allegiance to Siam and had fled to Penang.*

* His flight was occasioned by a sudden invasion of Kedáh by a Siamese force in 1821,—an invasion memorable for the atrocities which attended and the dissolution which followed it.—ED

I have found some obscurity in several of its passages, which, even with the aid of intelligent natives, has with difficulty been removed. Many of the words in it I believe are not in Marsden's Dictionary, and are not now in common use.

The author has not chosen to give his name, and he has committed two grievous errors for a historian, as he has neither informed us of the date whence he sets out, or of that when he himself wrote. But a date in the middle of the work and a copy of the native history of Achin, have enabled me to supply his omissions.

I shall have occasion to shew that the Colony described in this history came from India. Hence it is probable that its Annals were written in some Hindú dialect, until Islamism prevailed in Keddáh, when the previous order of things was subverted, and the Arabic character was introduced.

THE MARONG MAHAWANGSA.

I.

THE VOYAGE AND SHIPWRECK OF MARONG MAHAWANGSA.

The work begins with praises of the Prophet Sulíman or Solomon "to whom the dominion of the whole world and every living thing in it was entrusted by God."

There was a Rájá of Rum who despatched an Ambassador named Rájá *Márong* [*Máhá*] *Wángsá* to China, in order to negotiate a marriage betwixt the Prince his son and a daughter of His Chinese Majesty. This Ambassador traced his lineage from the inferior gods. His father was descended from the genii, and his mother from the *Dévádévá* or demigods. He was a great Rájá amongst the many Rájás who had been assembled by the King on this occasion, and he moreover wore a diadem. (1)

Rájá *Márong Máhawangsa* had married, contrary to the wish of his parents, a girl whose father was a *Girgássí* Rájá and whose mother was descended from the *Ráksásá*. Wherever he went he took her with him, as he feared the grandees of the [? Persian] Court, who dreaded his preternatural powers (a).

(a) Here we catch him tripping, since, not much further on, he stigmatizes the people found in Keddáh by the Ambassador on his arrival as *Girgássí*, which term corresponds nearly with the *Rákshásá* of the Hindús, or the evil genie of their mythology.

After the war of Rámá the Island of Lánkápurí became a desert, and fell under the rule of the mighty bird Girdá, which however had previously harboured on the Island (b). He was a lineal descendant from Máhá Rájá Dēwán, and he was strong in battle, of supernatural power, and dreaded by animals, reptiles and birds.

It happened that the bird Rájáwálí paid a visit to Girdá, and asked him if he had not learned that the King of Rum intended contracting a marriage betwixt his son and a princess of China, although these two countries lay wide apart, and that on account of the distance between them, a fleet of vessels was to be despatched from Rum to convey the royal lady from China. Girdá replied that the old Crow had already given him this information, as he had seen the gift bearing embassy on its way to China. Girdá further observed that the king of Rum would most likely fail in this attempt to display his power and consequence to distant potentates. "Have a little patience, Rájáwálí, I will instantly fly off and pay my respects to the Prophet Sūlímán (Solomon,) whose superhuman wisdom has exalted him over all the other kings of the earth—and whose prime minister is Hurmán-sháh. His Majesty will assuredly interdict the king of Rum from negotiating such an alliance. (2) (c).

Girdá having reported to king Sulímán the state of affairs, His Majesty observed that, when a Prince and Princess are once betrothed, it is not an easy matter to break off the alliance. Girdá, not satisfied with this remark, swore that he would abandon the haunts of men, and cease to wheel in the heavens, should he fail to effect their separation. The King said—very well—let me know the result. Girdá now soared aloft on his dusky pinions, and speedily reached China. He here alighted in a garden where the Princess, attended by her foster mother, and an attendant, was gathering flowers. Girdá instantly lifted the three into

(b) The Island is Ceylon—and Girdá is the Indian Gáruḍá, the eagle king, the snake—devourer, the bird of Heri and of Vishnú. Rájáwálí is another kind of eagle famous in Hindu mythology.

(c) His aquiline Majesty does not let us know his objections to the match. It could scarcely have been on the score of religion, since the Emperors of China were Islamites.

But our Chronicler here perpetrates a grievous anachronism when he makes Gáruḍá speak of King Solomon as if alive—although he only follows in the steps of many native eastern authorities—who use the name of "the wisest of men" as a sort of talisman for producing supernatural events, and for reconciling every inconsistency,—a method of settling doubtful points which was much in vogue in the dark ages of Europe.

the air, one by his beak, and the two others in his talons,—and carried them over the sea to Lānkapūrī—where he protected them, and supplied the princess with every delicacy she desired.

The Sultan of Rum gave a large būhtera, or ship, to his chief, Mārōng Māhāwāngsá, for the accommodation of the Prince, and another for himself and his people, for the voyage to China. To these were added many smaller vessels for the Suite. The fleet sailed on a fortunate day, and as it went along, touched at all the Ports which were then under the empire of Rum,—the Embassy receiving at each of these, the accustomed marks of respect. At length it entered the Sea of هيندوستن Hindustan, and beheld its wonders. Then, coasting down that continent, the fleet anchored occasionally in the bays of *the Islands*, where the people sought for shell-fish, fired *guns*, and otherwise amused themselves.

After a while it reached the mouth of the *Chāngong* river where reigned Rájá Gálungí or Kálungí. (3)

Girdá, bent on his plan of frustrating the expedition, here raised a violent storm of wind and rain, thunder and lightning. He was beheld high in the air, casting his vast shadow over the fleet. The Prince and the Ambassador directed their men to shout and to fire *guns*, and discharge enchanted arrows at the direful bird, who, wild with rage, had taken up his position to the westward of the fleet. Mārōng Māhāwāngsá now strung his bow or busor, and adjusted to it the arrow called Ayunan (*d*). The common arrows and shot merely glanced off Girdá's feathers, but this enchanted one put him to flight. This however was only effected with the loss of three of the vessels. Girdá had, before this, shifted from the west, and hurled another tempest on the vessels from north to south. Thus was Girdá for the present driven off by the potency of the arrow Ayunan, which has its point tipped with red, as if with fire, and which ascended towards Girdá with a noise like that of a tufan—interposing betwixt the latter and the ships a mountain barrier. The remaining ships cast anchor that night to see if Girdá would return, but, as he had fled to the forests on the shore, they weighed next morning and set sail southwardly. (4)

After a voyage of some days, the ships reached Távái river, where it disenbogues into the sea (*e*).

(*d*) I believe this bow to be the cross bow.

(*e*) This is Tavoy, now in possession of the British, on the Tenasserim Coast, some description of which was given by me to the R. A. Society, and abridged

The fleet had scarcely arrived when Girdá again appeared, sending a tempest before him of rain, thunder and lightning. The two vessels of the Prince and Ambassador were anchored close together, and the other ships were stationed around them, and kept ready with their arms. Márong Máháwángsá, having seized his bow with the arrow named *Brátpúra*, with its point flaming with fire, and, having stood out on the gunwale, of shot the arrow towards the sky. It sped with a loud noise, and in its descent dispelled the tempest. But notwithstanding the innumerable flights of arrows, and the constant firing and shouting of the sailors, Girdá contrived to carry off three more vessels—for he was invulnerable to all these missiles. So, after a short respite, he returned to his work of destruction as before.

Again Márong Máháwángsá sent the arrow *Brátpúra* at him, which he avoided, and it thus fell into the sea. Whereupon Girdá snatched away *three* more ships in his beak and talons, and soared aloft with them. Thus six vessels were lost with all their crews. On the ensuing day, as Girdá did not appear, the remnant of the fleet set sail in its now dismantled condition, having had twelve ships with all their crews destroyed. The fleet soon after got to the port of *Mrit*. (*f*)

in its Transactions⁽²⁾. It was a place in the days our Author alludes to, of much more importance to those navigating the eastern sea than it now is, when even the native vessels from Arah ports and from India strike across the ocean, guided by the compass. Besides it may be noticed that the population of the regions to the Eastward of India professed either Buddhism or the doctrines of one or other of the two great sects of Hindus which divided India, and consequently that the navigators of the periods antecedent to the spread of Islamism there, probably found always a welcome at such places, as they touched at. Buddhism, it is well known, prevails at this day in Pegu, and all along the Coast of Tenasserim, while Hinduism has been always tolerated, and never persecuted by the Buddhists of these regions. The natives of Tavoy say that about two thousand years ago, colonies arrived from Martaban and from the Eastward, and that long after this event people reached it from Arracan in search of iron, a rather curious but not probable reason, and settled at Daungwe or Thaungwe, about five miles up the Tavoy river, and on the west bank. This party called the country Dahweh "knife, buy." They brought along with them the Buddhist religion.

When the present town of Tavoy was built, the people could not I think have been under much apprehension from the Siamese. If they had been so, they would have erected the Fort on the west side of the bank, where the ground is higher.

(²) 1834 to 1840 Art. XLV.

(*f*) This was the name then, and in fact is the native name now, given to the British possession of Mergui. It doubtless appertained at the time of their voyage to Siam—for it was under the latter, in A.D. 1053 as I find in the *Bot Phrá Ayakán*, a Siamese work—or Digest of Siamese Law, which I pro-

But here at Mrit it was again assailed by a furious storm, which darkened the heavens and shook the timbers of the ships, brigs, and gallees. Márong Mäháwángsá resorted to the former expedient, and having got upon the top of the stern, drew his bow called *Prásá Sámpaní Gámbará* and shot his flaming arrow, saying,—speed arrow and slay Girdá. But Girdá avoided it, by making it glance off his plumage. Enraged, he pounced upon three more of the ships and vessels, and carried them off as he had done with the rest, in spite of the firing and shouting of the crews, for these vessels were also destroyed. Rájá Mäháwángsá, in a furious passion, shot another arrow towards the heavens, whereupon the arrow was changed into a bird named *Jintáyu*, which gave chase to Girdá. But Girdá vomited fire on Jintáyu, and consumed him. Girdá now kept aloof in the mountains, dreading the supernatural endowments of Márong Mäháwángsá. Next morning the remnant of the fleet sailed away from Mrit, and after some days came in sight of *Sáláng*, in the sea called *Tápián*. Here having cast anchor abreast of the Island, the Ambassador sent a party on shore to ask permission of the Chief or Rájá to wood and water, but the Prince's vessel with other ships stood on down the Coast, by rounding the point of the Island. (g)

About a day and night after the Prince left *Sáláng* and

cured myself at Mergui when it was taken by the British forces. This Digest purports to have been compiled by order of *Phrá Si* (Sís) *Mút* a Prince of the Royal line of Siam in the year 1591 of the Sakarat era or A. D. 1048—and to have been given in 1596 of the same Era A. D. 1053, to Chow Phráyá Intá¹ Wengsá, who went as general of the Siamese troops when they invaded Tenasserim. M. D'Anville thought that the Beraolie of Ptolemy might imply Mergui.² Europeans frequented Mergui about the close of the 17th Century, and the English had a Port here in 1687 A. D., but the settlers were nearly all murdered. In 1793 the Siamese yielded and ceded of Ava the whole Coast of Tenasserim south to Fak Chan, which last is now the boundary to the south between the British and Siamese territories.

(1) Indra.

(2) D'Anville's

(g) The Author is very clear in this part of his description of the voyage. *Salang*, then peopled it seems, is the Siamese name for Junkceylon—and this is yet employed by the surrounding maritime nations. It is probably a corruption of *Sellan*—or *Selandip* or *Serindeb* or *Selandine*, all names, according to Bryant, of Ceylon. It was then, as it now is, a Siamese possession, and was conveniently situated for the Buddhist Priests of Ceylon, who were accustomed to pass over the Peninsula to Siam. I could not however find, when I was there in 1824, any ancient temples of Buddhá. In the adjoining Siamese Province of Phungá the Buddhist Priests are in numbers, very disproportionate to the population.

If *Girdá* had attacked the Prince at this bluff southern point of *Sáláng*, he might have been pretty sure of his quarry. When making the same course from Mergui in a small brig in 1825 we were very nearly lost on the same point. We were on our last tack, and only cleared the towering rocks by a

was making for the Island of Lánkápurí, (*h*) Girdá espied his ships, and perceived also that Márong Máháwángsá was not come up, so he attacked them with redoubled fury, and sunk the whole; the men who were drowned far exceeded in number those who were saved alive. Fortunately the Prince of Rum got hold of a plank and floated to Lánkápurí. In the mean while, Márong Máháwángsá's ship arrived at the spot of the shipwreck, and picked up the survivors who were floating about.

Márong Máháwángsá was excessively grieved at the loss of the Prince; especially as he felt himself responsible for it to the Sultan of Rum. But after a vain search, he sailed in his vessel, the only remaining one, to the eastward.

Keeping along this coast of the continent, Márong Máháwángsá arrived at a bay and a point of land. He inquired of an old Málím (Captain) who was in his ship "if he knew the locality," who said, "the large island we have reached is now becoming attached to the main land, and its name is Pulo Srai سري (or *Sri*) my lord. That small island which your highness sees is named *Pulo Jumbul*, and that other, more in shore, is *Pulo Ládá*." On hearing this, Máháwángsá expressed himself satisfied and added, if such be the case let us anchor. The vessel was then moored in the east of the bay near to or at the point of land, on the main shore; that is, *the land* more extensive than that large island.

Rájá Márong Máháwángsá then went on shore, attended by his chiefs and followers. (*i*)

cable's length—the water being deep to their base. The appellation of Tappan to the sea at Salang is I suspect quite obsolete, as I have not found any one who could explain it.

(*h*) Lánkápurí is the antient name of the cluster of Islands now called by the natives Lánkáwát, and laid down in our maps as the "Lancavy Islands." Here we have in the first appellative one of the names applied to Ceylon—and which was doubtless also given to the Lancavies by the Hindus, during their voyages to the Eastward, if not by Máháwángsá himself. These are bold Islands, formed of and flanked by towering masses of limestone. I could find but few tracts of level ground upon these Islands. They are dependencies of the Siamese Government of Keddah.

But Langkapura was the name of Ceylon and also of its capital. Ceylon was also termed *Lanká Dweepa* (!). Ptolemy called it *Salice*, and some ancient authors named it *Simundei*. There was a Lankapuri likewise lying somewhere betwixt Palembang and Jambi in Sumatra.

(!) Forbes' Ceylon p. 7.

(*i*) We have now reached the termination of the voyage. From the question put to the Málím and his reply, it is evident that the Chronicler knew, or supposed, that the place with whose localities the Málím seemed familiar, had been before visited by him—and therefore that it was *not* a new port, or at least that coasting or other vessels used to touch there for some purpose or

MAHAWANGSA ARRIVES IN KEDAH, AND BECOMES RAJA.

When the ship had been moored, Márong Mäháwángsá, accompanied by all his chief men and followers, went on shore, and in a short while he was visited by *very great numbers* of the very *large* men (*k*) belonging to the tribe of the *Girgássí*. Now Rájá Márong Mäháwángsá knew the *Caste* of these Girgássí, and he encouraged them by speaking to them in a soft tone of voice. The Girgássí were both afraid of him and astonished at his demeanour; and they trembled with apprehension, as they had not previous to or about that period been used to see his like. Mäháwángsá addressing the visitors said, "I have put in at this place, and if it should be *quite convenient to you, I wish to remain until I can obtain intelligence of the Prince of Rum, whether he be alive or not*". The Girgássí respectfully saluting Mäháwángsá, replied, "Your servants are all overjoyed at your lordship's request, because we have not established a Rájá over this place; therefore your highness may select a spot to reside on." Rájá Mäháwángsá accordingly walked about, followed by his own suite, and all the tribes of Girgássí, and at last pitched upon a delightful and convenient spot for a residence. Having quitted his ship, he erected a Fort with a ditch around it; also a palace, and a very spacious Balei or Hall of audience, to which he gave the name of *Lánkásuká* on account of its having been built in the midst of all kinds of rejoicings and festivities, and because objects for field sports were abundant, from the chasing of the deer, the roe, the palandok (*l*) and the wild ox, to the snaring and catching of numerous species of birds, all of which loaded the feasts and made glad the hearts of the people.

other. This I think is a very material point to be kept in view, because, from the general import of the Chronicle or History, the writer seems rather desirous of having it inferred that Keddah had not been visited before—by strangers.

If our author's description of the Coast of Keddah be a correct one, it will also assure us of the fact, that the sea has within the past five or six hundred years made extensive recessions. (1) In order to ascertain if possible if such change had been effected, and also with other objects in view, I undertook during the year 1847 a rather more toilsome excursion to and made a fuller examination of the Keddah country from the British boundary to Purlis than circumstances had before admitted of, and I am happy to add, that my observations have verified pretty closely our author's accounts of localities, and not only in the above instances, but in those which he brings forward in the subsequent parts of his work.

(1) See some remarks on this subject *ante* vol. II p. 117.

(k) The words are *نرنگ بزرگ* *nrang besar besar*—which properly signify great men—men of rank. But it seems clear that the author intended by them "*big powerful men*" they being of the tribe of Girgassies.

(l) The Chevroton of Buffon.

The Girgássí, who were without a Rájá, had only Panghulus or Officers with them. (5)

When all had been prepared, Máháwángsá took up his abode in the Palace along with his wife,^(m) and had also his effects conveyed to it from the ship, and all the mantrí or ministers of state, the hulubálang or body guards, and the para pengháwá or warriors, erected dwellings in gardens surrounding the Rájá's abode and fort, and daily paid their respects to him.

When the report of this settlement having been formed had gone abroad, traders and strangers came from other regions to trade there, assembling in multitudes; and the good sense and conciliatory demeanour of the Rájá towards his chief men and the ryots, caused them to live in ease and plenty. Numbers of people also, with their families, came to live under his rule. From month to month, from year to year, the population of ryots continued to increase greatly. Thus the Rájá became secure upon the throne, and his prudence and liberality, his wisdom and justice increased his fame.

NOTES.

(1) By Rum^(f) or Rumi the nations to the eastward of Hindostan have generally meant Constantinople and sometimes its

(m) The Rájá is here stated to have landed his wife, no children being alluded to, which requires to be noted.

Such a large and populous establishment encourages the hope that traces of it may yet be discovered when the country becomes cleared from its dense forest, if not sooner. The wars which have during the past twenty years, nearly depopulated Keddah, are now happily over, and that fine province may in time recover some of its former prosperity. It is pretty clear from the foregoing passage that Srí was at the period therein alluded to very populous, and also that it lay in one of the tracts of commerce. I may remark that the historian applies Hindu and Javanese titles to Máháwángsá's officers, the same as are bestowed at the present day by the various Malayan people to the eastward.

At the time of settling this colony there were many noted trading marts at no great distance from it. There were Achio, Singhapura, Pegu, and the Tenasserim ports, Menangkahu and its sea port in Sumatra, and other places along the East Coast of that splendid Island, of which *Perlac* was then probably one, as it was in Marco Polo's time, for he visited it in 1292-3. Then there was Java, with its Hindu population, the Eastern Islands—especially China and its Tributaries.

Máháwángsá's wife is specially mentioned by the Author of this history, as having arrived with him at Keddah, so she was quite at home with her kindred race the Girgássí. But such vessels as then navigated these seas can hardly be supposed to have any of them carried more than from 200 to 300 persons. This would be a sufficient nucleus, and was doubtless increased by subsequent unnoted emigrations from India.

(f) Rum—was or is the Turkish Empire—or that of the Seljuks of Iconium—Asia minor—Anatolia. Mondid. Dict. 7.

tributaries merely. It is even doubtful if Persia has not been included by them under the same title. But it appears from the native writings which are extant, that the Malays, and to some extent the Indo-chinese, derived most of their knowledge of the west from Bagdad, which was considered by them as a portion of the Empire of Rumi. In the early history of the Malays, the first King of Menangkabau in Sumatra was the son of a Prince of India and of the race of Raja Sekandar Zulkarneini or Alexander the Great.

It will appear further on, that our author has contrived to blend, but in rather a bungling manner, two narratives regarding very dissimilar regions and people. The lineage assigned to the Ambassador sufficiently proves that his country could not have been Rumi, but that it indicates some part of India, and likewise that he belonged to one of the two great religious divisions of the Indians, the Hindus, and the Buddhists. It is probable enough that the contemporaneous arrival at Keddáh, of two parties of strangers, the one from some place in the Byzantine Empire, the other from India, gave rise to the confusion we find in the beginning of this Keddáh chronicle.

The voyage of the Ambassador from Rúm, is narrated so circumstantially, and in general so correctly, with reference to the geography of the Coasts along which it was made, that there seems to be no reason for our not admitting it to have been performed by some known navigator of the period in the direction of the Straits of Malacca, if not actually to Keddáh. The name of this navigator had probably been forgotten, previous to the labours of our Author, and was afterwards identified by the latter with Márong Máháwángsá, who was the leader of a Colony from India.

I am almost induced, from the lineage given for him, to believe that this latter person partook of the sacerdotal, as well as of the lay character. But our Author, owing probably to his Islamitic contempt for every phase of religious feeling beyond the pale of his own creed, has only casually alluded to the subject. Márong Máháwángsá is not described by him as having given to Keddáh a new religion—although his descendants are expressly noticed by him, as will be seen further on, as image worshippers. I am disposed to think that the Buddhist religion was prevalent in Keddáh before the advent of that Colony—and that the Sivaic superstition was engrafted upon it by the priests who arrived with the colonists.

The antiquarian remains which years of research have supplied to me, lead me to the conclusion that both Hindus and Buddhists had votaries in Keddáh for several centuries, while at the same time they serve to corroborate the Native Author's assertions. But this subject cannot be here entered on.

Before proceeding further, it may be as well to trace the etymology of the name Márong Máháwángsá. Márong is a Siamese word used in their astrological or astronomical works. It is

applied to a man who can by supernatural means assume any shape he pleases. A Buddhist Priest of Siam acquaints me that it is a title bestowed on a military chief—and also signifies a person who can preternaturally change his appearance.

It is of course derived either from the Bali or Sanscrit.

It will be found further on that I have advanced sufficient evidence to prove that the Settlement of Keddáh by a foreign colony may be admitted.

Now this was one of the periods when the people of Calīngara, probably the Calingæ of Ptolemy⁽¹⁾—called to the eastward Klings—were engaged in expeditions to the Straits of Malacca and to Sumatra, and one of these approached close to Keddáh. Kalīnga means “the coast of creeks.” West Kalīnga stretched from Cuttaca on the W. to the west mouth of the Ganges. Central Kalīnga comprised a large Island in the embouchure of the Ganges Maco Calīnga was the country of the Magas or Mugs—or Chittagong, and perhaps, some adjacent parts.⁽²⁾ Kalīnga included what is now Orissa and Cuttack. Tanjore was called Chola. It was from Kalīnga or Orissa that the tooth of Buddha, now the chief relic in Ceylon, was procured by King Mahasen of that Island in A. D. 275⁽³⁾ It is related in the Sájára Má áyu or Malayan annals (which were translated into English by Dr Leyden) that Rájá Suran of Bijanugur invaded the Peninsula of Malacca with a large force of Klings—first attacking the state of Gūnga Nágára or *Perak* (which adjoins Keddáh on the South,) and afterwards subdued Johor. His son Bichitram Shah headed subsequently two separate expeditions. In the first he had 20 vessels—but he was wrecked in the Sea of *Silhow*, and half of his fleet was lost. But he got back afterwards.

Máhá means in Sanscrit, it need scarcely be observed, exalted great, superior, &c.

Báŋgsá is a Sanscrit term for tribe—race—lineage—caste. It has been adopted by the Malays according to its original orthography; but by the Siamese and the Achmese it has been converted into Wongsá and Wángsá. Thus in Siam the Phriyá Wongsá is a high Judicial Officer—and another man of official rank is termed Wongsá Sovrisak, while in a Siamese M.S. in my possession of date 1591 Sakarat Era, or A. D. 1053, one of the general's name was Chau Phriyá Intha (or Indra) Wong-á, and in A. D. 1015 the reigning Prince of Achin was entitled Máhá Rájá D'hermá Wángsá. Both these nations have doubtless derived this word from the Pali or Magadhi language—for the ancient history of Ceylon, so ably translated and commented on by the late The Hon'ble Mr Turnour, is termed the *Mahawanso*—which the original Native Author of that work adverts to in these terms, “Mahawanso is

(1) *Asiat. Res. C. vol. VIII.*

(2) *Do. vol. IX p. 81 et seq.*

(3) *Col. Sykes' No. XII J. T. R. A. S.*

the abbreviation of Mahantanawanso, the genealogy of the great. It signifies both pedigree and inheritance, from generation—being itself of high import, either on that account or because it also bears the two above significations—hence Mahawanso.”⁽¹⁾

A Siamese Buddhist Priest informed me that Mähawāngsá is a title bestowed in written works, on the eldest Son of a superior or Prime Minister.

At the latter part of the fourteenth century Pátáni was reduced to subjection by Chaü Sri Bāngsá, a son of the Emperor of Siam. Maha Wansœ means a Powerful Dynasty. There were the Suryá wangsœ—children of the Sun. In the Malayan annals Náráwāngsá is described to be “a Malayan title of old”

This matrimonial embassy from *Rum* has a close connection in point of time with one described by Marco Polo—whose veracity, while relating what he himself witnessed, or performed, however it may have been cavilled at for several centuries, has by the moderns been amply confirmed. He informs us⁽²⁾ that the then King of Persia had sent an embassy to Kublai Khan the Tartar Emperor of China to obtain for his wife a daughter of the latter—but that the King of Persia had died in A. D. 1291 before the embassy had reached his Court conveying the Princess. Marco Polo accompanied the embassy on its return voyage; which commenced in the beginning of 1291 A. D. The vessels lay three months at Java—and were after this, eighteen months in the Indian seas before they got to Persia, and the envoys presented themselves at the Court of King Arghun. The whole voyage therefore occupied twenty-one months; which the Arabs, who were perhaps then the chief if not the only navigators from the west of the seas to the eastward, now accomplish in about the same time that European vessels take.⁽³⁾

Sir S. Raffles in his History of Java gives us an example of the fondness with which the people of the E Archipelago looked towards Rumi. He says after the first discovery of Java (no date) the Prince of Rum sent there twenty thousand families to people the island. But they all perished (? by sea) excepting twenty families, which returned to Rum. It is most probable however that this impossible immigration represents one which had been sent by the Prince of Kling—but less exaggerated as to numbers.

The vizier of They Khoten, and the officer who opposed the scheme of bank notes in Persia, consulted there the Ambassadors from China, who had just arrived from that country.

“Arghun Khan had sent Ambassadors to Kublai Khan, Emperor of Tartary and China to obtain a princess to wife, but he had died before their return. They Khaton, who was at the time King Regent, directed that the Chinese princess should be given in marriage

(1) The H. Mr Turnour's introduction to the Mähawānsœ p. XXXI.

(2) Marco Polo—p. 11 to 14.

(3) [See the Remarks on this Voyage, ante vol. II p. 693.]

to Ghazan, the son of Arghaun Khan. As Arghaun Khan did not die before the end of A. D. 1291, the returning mission from China must have reached the Court of Tabreez in A. D. 1292 or 93." (1)

Marco Polo however was not then present. His father and uncle had been at that Court 30 to 40 years before the period of Marco Polo's relation of the marriage. It is curious to find the Chinese at that period adopting paper money for the purposes of finance or circulation, a discovery which Europeans fondly attribute to themselves. The notes were stamped with the King's Seal—and when worn out were renewed at the mint. Notes are in use at this day in China.

Marco Polo does not positively inform us if the Princess ever returned to China. If she did, perhaps some disasters to the ships may have given rise to the mistakes of the Keddáh Chronicler. The latter however minutely, as will be seen, describes the arrival of the second fleet at Keddáh, being that which was sent in search of the lost Ambassador—and apparently about 20 years subsequently to his arrival at Keddáh. I cannot make *his*, that is the Indian's, advent earlier than A. D. 1218.

In the year of the Hijra 677 or A. D. 1299 the Emperor Phylagius expelled Baldwin II from the throne of Constantinople or Rumi, so that no Mahometan mission could for a long while after that date have proceeded from that city to China. I am inclined from collateral evidence, as well as from the internal evidence of the Keddáh Annals or History, to place the advent of Márong Máhá-wángsá somewhere betwixt A. D. 1218 and 1230. The natives of India at the above date had frequent intercourse with the Eastern Straits and Archipelago, for they had for centuries previously possessed settlements in these regions. Their voyages were probably all coasting ones, where practicable. Marco Polo, according to Mr Crawford (2), made such a voyage and without the aid of the mariner's compass,—an instrument which I find by *Fa Hian's* account was unknown in A. D. 414. (3) By the Venetian's own account he had three months provisions on board his fourteen junks—he took three months to sail from China to Java—and was eighteen months in reaching Ormuz.

In our present work the author terms China چین *Chín*. Sir J. Davis, in his very instructive work on China, considers that its present name may have been derived from Tsien.

Mr Crawford states that Chín was the name given to it by the Persians and Arabians, and also by the people of the Indian Archipelago.

The trade, says the author of the Translation of the Mahawanso (4)

(1) Malcolm's Persia—quoting the Author of the *Dil Kúsha*.

(2) Crawford's Archipelago vol. III.

(3) Lt. Col Sykes—quot. M. Landresse—Journal of the Roy. As. Soc No. XII.

(4) Tournour's Transl. Mahawanso. [See also this Journal vol. II p. 603, *Antiquity of the Chinese trade with India and the Indian Archipelago*.—Ed.]

betwixt Omar in the Persian Gulf and China was brisk in A. D. 850 but had been carried on since A. D. 450.

I do not know upon what authority Sir S. Raffles (in his History of Java I think) states that a King of Ceylon was, or the Kings of Ceylon were, tributary to Rome in the year of the Hijra 601. It was doubtless a story invented by the Arabs. There is an account in the Malayan annals having reference to about the same period as Márong Máháwángsá's advent—and having one point of resemblance—that of shipwreck.

The Son of Raja Nizam al Mulik Acbar Sha Mani Farendan, King of Pahali in India “(by which is meant Calinga)” sailed after his father's death for Malacca. He was wrecked, but afterwards reached Malacca and visited Sultan Mahomed Shah. ⁽¹⁾

We find in Sir S. Raffles' History of Java ⁽²⁾ that a Prince of Rome sent [20,000] twenty thousand families to people that country—but that they were all destroyed. This would give about 80,000 souls, allowing four persons to a family. But whence they came is not specified. Although this account may be an error in the traditions of Java, its possibility might not be questionable, provided it could be shown that the Romans exercised a controul over a portion of India. That Rome might have in such event had Ceylon at one period amongst its tributary or nominally tributary Kingdoms might have been possible, for we find that the Romans carried on a regular trade to India from 400 to 350 B. C. up to 650 A. D. when Islamism came in their way. There was an Embassy from Ceylon to Claudius at Rome ⁽³⁾ and they had at the last date a factory, defended by two Cohorts of 1,200 men, at Muziris, on the Bombay side of India—and also had built there a temple to Augustus ⁽⁴⁾ and there were Indian Astrologers at Rome in 50 A. D. The Ambassadors from S. India informed the Emperor of China Seu an Woo that India carried on a trade with the Roman Empire and Syria about 500 to 516 A. D. ⁽⁵⁾ An Embassy was sent by King Porus of India to Augustus who was then in Spain in B. C. 24. Xerxes had a large body of Hindoos (? Buddhists) in his service when he invaded Greece in B. C. 480. But there were Soothsayers according to *Isaiah* in the West who came from India about B. C. 700. When Alexander the Great returned from his Indian expedition, a large body of Indians accompanied him with their families. ⁽⁶⁾

(2) All early nations drew omens from the Crow or Raven of

⁽¹⁾ Leydens Met. An.

⁽²⁾ P. 65 to 69. [We cannot find the passage, but Sir S. Raffles must mean Rum, or Constantinople. In the second vol. he mentions a colony from the Red Sea.—Ed.]

⁽³⁾ Vincent.

⁽⁴⁾ A. R. vol. X.

⁽⁵⁾ M. Landresse's Wan Hien and Kiung Koon quoted by Mr Tournour in the preface to the Ceylonese Máhawanso.

⁽⁶⁾ A. R. vol. IX.

Cadmus. Both Hazvini and Damir attribute inspiration to him—and the Mahometans have preserved the Talmudical fable of his voice responding to his Celestial Counterpart, and of the certain arrival of the final judgment when that voice shall cease to be heard. They also believe that when Kabil or Abel was killed by his brother Cain, there was no precedent for the disposal of the body. Two Crows therefore fought together until one of them was killed, when other Crows came and buried the dead one—by scratching a hole in the ground with their feet. Beckford in his “Travels in Europe” mentions sacred Crow fanciers. The Raven was dedicated to Odin, and this God, as described in the traditional history of Iceland, had two attending on him, the one called *Hagin* the other *Mumin*, viz., “Spirit” and “Memory.” The Raven long decorated the Danish Standard—and the Icelanders believe that this bird knows what is going on at a distance, and what is to happen—and that its appearance sometimes portends death.

(3) Our Author has entirely omitted Ceylon in his narrative, although an Island then perfectly well known in the west—and which, as I have already shewn, was the intermediate port for the Arab ships proceeding to China—at a period long antecedent to the time of *Máhawāngsá*. From this it might be deemed a fair inference that the fleet of *Máhawāngsá* did not double Ceylon.

The first port touched at to the eastward was the “*Quolla Chang-gong*” or river of *Pegu* where it enters the sea. Excepting *Achin* this was of course the first available harbour to the eastward perhaps then existing. *Pegu* was at that period an independent country. The Burmans conquered *Pegu* in A D 1546 during the visit of *Mendez Pinto*. *Fitch*, quoted by *Mr Crawford* (*Mission to Ava* p. 501 et seq.) gives a picture of the capital of *Pegu* in from the A. D. 1583 to 1591 which appeared to me to be amply confirmed by the remains still extant, and which I had an opportunity of shortly inspecting when forming, as a temporary staff, one of a reconnoitring party detached in front of *Lt-Col Mallet’s* force, which was sent to sweep that part of the country during the Burmese war up to old *Pegu*, in order to ascertain whether the Burmese had a force there likely to act on the rear of the British Army. (1)

The reconnoitring party (2), not experiencing any opposition on arriving opposite the western gate, passed it, guarding against a surprise. A wide area now opened to view—partly cultivated with rice and partly lying waste. A small assemblage of humble huts, containing perhaps five or six hundred persons, was all that was left of a once dense population. A melancholy air of desolation pervades this ruined seat of a once flourishing dynasty. The walls form a square of, as well as I could judge by pacing it, about a mile

(1) I have described the occurrences in my “*Account of Tenasserim*” in the *Trans. of the R. A. S.* 1834 to 1840.

(2) *Captains Jones, Brisco, Trant and myself with European soldiers.*

each face. The wall, which seemed to have been formed by two brick walls inclosing earth, was in a very ruinous condition. Its breadth or thickness was 34 feet, and its height 12 feet. The ditch, which is fourteen paces from the base of the wall, was then in a tolerable state of repair—which could hardly have been expected from its age. It was yet lined with the original bricks, and contained a supply of water.

A rough causeway of bricks set on their edges led in a straight line from the gate alluded to, up to the S. front of the great temple of Shui Madu. Pushing forward we reached the village, and, shortly after, this once proud fane of Buddha. The people, priests included, had fled, and in such haste that they left most of their property behind them. But as the troops were kept outside of the walls, nothing was touched. On entering the monastery, chests full of Burman books attracted my attention, but however seductive to an M. S. hunter, they were left to their owners—for we were not warring against Peguers or their spiritual teachers.

The height and aspect of the Pagoda have been well described by Symes and others. It has lost all the gilding which formerly profusely covered it, and has now a pleasingly venerable appearance, while the great Shui Dagaung Temple at Rangoon looks like a gaudy pageant of the passing hour, although really a splendid building of its kind. The troops speedily embarked and reached Rangoon to join in its defence against the Bandoia's or Burmese General's army of 20,000 men, and afterwards in defeating it in three consecutive battles at the flanks and centre of their extended lines. Close to the Dagoba I observed a marble slab with an inscription on it couched in the inflated terms used by Indian Princes of the conquests of Aloughphra or Alompra, the subduer of the Peguans. He razed Pegu in A. D. 1757.

In the time of Hamilton A. D. 1769, this capital was in ruins. But there could not have been many substantial buildings within the area of the walls or there would have been ruins of them visible. I greatly suspect that the houses were of wood and frailer materials, as Rangoon houses are at this day, and that the brick warehouses, which were in the old town beyond the walls, were merely small *fire safes*.

Thruse (†) was, according to Arian, the most remote maritime region towards the east that was known in his time. In all probability it comprehended not only Arracan, but likewise the country designated by Ptolemy the golden Chersonese “which is now generally admitted to be Pegu.”

Mr Crawford states that the oldest temples at *Pugan* were of a date from 846 to 864 A. D. (2) The king then reigning was Pyan Byà. If *Pugan* was founded so early as A. D. 107, as here also stated, and the Buddhist religion was introduced into *Ava* so

(†) J. A. S. B. for January 1847 p. 27.

(2) Journ. Emb. to *Ava* p. p. 62-63.

early as B. C. 307 as we learn from the Mahawanso, how does it happen that none of the numerous ruins of Buddhist temples at this ancient city, where there are, as the above writer tells us, the most interesting and remarkable remains of antiquity in the Burman dominions,—itself the seat of Government for twelve centuries—have a date anterior to A D. 846 to 864? But the dynasties in the Burman chronicle up to king Sumindri, at least B. C. 79, would appear to be Indian ones. It is certain that many of the kings named in it belonged to India—thus Ajatasattu, Dhammasoka Raja, Mahinda. But the date of the third convocation to settle the Buddhistical tenets, which was held in India at Patilipura, when Dhammasoka reigned, is correctly given in the list, as it corresponds pretty exactly with that assigned to it in the Mahawanso, and the same may be said in regard to the date of Mahindha's (Mahindo's) mission to Ceylon—the first of these dates being B. C. 309 and the second B. C. 307. The only sacred book of the Burmese priests, Mr Crawford observes, which is written in the Pali character, is the short one called Kamawa, commonly found on sheets of ivory. I have one of the same in my possession in the square Pali.

The only evidences at Pagan of Hinduism, were a small oval tile with a figure of Buddha on it; an inscription in the Deva Nagari character; and a temple with some Hindu images, of a date about A. D. 997 to A. D. 1030.⁽¹⁾ Hence Mr Crawford thinks, that if these were principal images, and not warders, of the temple, Brahmanism and Hinduism may have been intermixed, as is suspected to have been the case in Java.⁽²⁾ Besides this, the form of the temples at Pagan is more a Hindu than a Buddhist one. But such Buddhism as that which existed in Ceylon must have been spread over Ava soon after A D 410 to A D 432, when Buddha Ghosa left Ceylon on his mission to the eastward. "The Shan country contains many relics of antiquity, which may lead to a supposition that Buddhism prevailed in the Laos countries perhaps earlier than it did in what is now Ava. But it is not stated in what character the *Shan* inscriptions exist."

Prome according to Crawford ⁽³⁾ was "the first seat of Burman Government to which any allusion is made, and is said to have "been founded B. C. 433" But as a prince of Rum, B. C. 301, is called by the Burmese a son of Dhamasanka king of Wethali—the Dhammasoka Raja, who was Emperor of India, and consequently ruler of Wesali, the capital of Waji, the country of the Lichchawi Rajas,⁽⁴⁾ it thence appears that the Burmese have confounded their own kings in many instances with those of Central India. But if the Burmese descended the Irrawady from the north, how does it

(1) Ib. p. 69.

(2) They co-exist without opposition in Bali at the present day, and appear always to have done so.—Ed.

(3) Ib. p. 490 *et seq.*

(4) Mahawanso, Introduction p. 29.

happen that they settled at first so far down? This might lead us to suspect that they settled originally in Pegu and Martaban, descending from the Laos countries by the route of the Attaram river to Martaban. The Peguers or Monsas assert that the Burmans got their religion from Pegu.

It would seem from Mr Crawford's remark in his embassy to Ava (p. 419) that the Burmese say that in A. D. 386 a Burman priest Buddha Gautha or Gausa proceeded to Ceylon, and from thence brought with him a copy of the Buddhist Scriptures. This only serves to caution us against their chronology at the earlier periods of their history; for *Buddha Ghosa* went to Ceylon from India not from Ava in about A. D. 410, and then (1) compiled the Buddhist Scriptures and Commentaries which reached Ava afterwards, and exist there now in I believe nearly their pristine purity. Tattooing seems originally, observes Mr Crawford, to "have been confined to the Burmans and Taleins. The nations they have subdued have more or less followed their example, such as the Kayens, the Aracanese and the Shans." But it is only I suspect those Kareans who live near to a Burman population who tattoo themselves; for, in travelling over the Tenasserim Provinces, I found the Kayen tribes generally to be not tattooed. But Fitch says that the Peguers did not in his time tattoo themselves.

The Siamese most likely dropped the practise, if indeed it had then existed, when they separated from the Laos, in order to individualize themselves more strongly.

(4) The period of the year was doubtless that of the S. W. monsoon, when small and badly managed vessels are still occasionally lost.

The Scythians, as we learn from Col. Todd's *Rajahstan*, of the north of Europe, were always alert to assist, as they imagined, their gods. When they heard loud thunder they supposed that these gods were attacked, and they shot their arrows towards the sky to aid the latter. The Grecian and Celtic sailors purchased the charmed arrows of their god Apollo to calm the troubled sea. The Malays too had the superstition amongst them, for in the *Malayan Annals* (2) it is related that "*Seyyad Arab* discharged an arrow towards Siam, saying, "*Chaupandan the Raja of Siam is a dead man*" and it fell out accordingly." Now this mode of killing an enemy was then novel to the Malays, and must have been taught them by this Arab, who was a "servant of God." I have for convenience sake used Leyden's Translation of these Annals where it gives the whole of the original, but have reverted to the latter where that is not the case. The copy in the Arabic character in my possession, which was purchased from a shop-keeper, seems to have been made about twenty years ago, and to have been in the possession of some English orientalist, as it has mar-

(1) Mahawanso Ch. 37 p. 250.

(2) Translation by Leyden p. 133.

ginal annotations, where he thought the sense obscure. He states in a note that "this translation is merely a free rendering of some of the principal incidents it contains. Ibrahim the Moonshee made a copy of the *Salelata Salatin* at Malacca, and took it with him to Bengal, where he was in the service of Dr Leyden. Ibrahim read the book to the Doctor and explained the meaning to him, and he wrote down what he seems to have considered as worthy of notice. This is the account which Ibrahim gives me. It would indeed be tedious to translate all the prolixity and repetitions of a Malayan author, but this translation is tolerably faithful. There is considerable variation in the Malayan copies." These remarks seem to me quite justifiable.

(5) *The aborigines of Kedah.*—The *Girgási* and the *Rakshasas* are classed together by the Indo-Chinese nations in their tales of Genii and demons. Our Ambassador, it may be recollected, had married the daughter of a *Rakshasa* father and *Girgási* mother; hence he is described as being acquainted with the caste of these *Keddah Girgásis*. The exclusiveness of Asiatic navigators and travellers of ancient times, is often betrayed in the names they give to the aborigines of the countries visited by them. The civilized European sneeringly termed two thirds of the human race—blacks—while he himself had not long before escaped from under the Roman epithet "barbarian." The natives on the continent of India who had ascended pretty high on the ladder of civilization, found by their own accounts the Island of Ceylon inhabited by *Yakhas* or demons, so branded by them, who were driven by them into the woods, where their descendents are to be found to this day of British civilization and ascendancy. Then there are the Burmese, Siamese and other Indo-Chinese nations who look upon and treat the various aboriginal tribes whom they have nearly supplanted—such as the *Kareans*, *Samangs*, *Bila* and others—as beings but little elevated above the orang-utan—while the far more barbarous tribes of the Archipelago behold in the same light the *Harafuras* and other races who have been driven by them into the fastnesses of the Islands.

Yet many of these expelled races have fairer complexions, and as good proportions of body as their tyrants—and have better claims to antiquity, if they be not the remnants of a far anterior civilization shattered by time and superior force.

Our author only observes in this place, when alluding to the external appearance of these *Girgasi*, that they were "very large men"—but he elsewhere tells us, that they had, like the *Rakshasas*—hideous tusks—a belief still prevalent amongst the Malays of *Keddah*; although they are now Mahomedans. But our author is further on obliged to confess that *Márong Máhawángsá's* descendents intermarried with these aborigines—for such they seem to have been. This tribe or people seems to have belonged to the Siamese race—and it is probable that the portion of the present

population of Keddah called Samsam is derived from that tribe. The Samsam use as their native tongue the Siamese language—follow Siamese customs, and are, excepting where not converted to Islamism, Buddhists. They seem to have mixed with the colonists from the west, and approximate now more in stature and colour to the Malay, than to the true Siamese. Many families of Samsams are living under British rule in Province Wellesley and prove to be a quiet and, as compared with Malays, an industrious people. They have orchards and rice fields—and they hunt the deer and wild hog for *food*, with dogs, using nets and spears. These dogs are small but active and bold creatures.

They generally bring the boar to bay, when the hunters kill him with their spears. But I have seen both men and dogs very badly wounded during such an encounter.

That the Girgási were Siamese, or cognate to them, appears probable also from the names, according to our author, of some of their chiefs. Such are Phra Chibon,—Nang, Suttaman—Parap—Nang Meri. These names I believe have been derived from the Pali—a language to which the Siamese have been indebted for most, if not all, of their words applied to religion, politics, law, learning and science, and proving their rude condition when that language was introduced amongst them.

I may here notice that in the Katha Wongsá, a Bali work, which I procured from the Siamese, Buddha is said to have commenced his wanderings by proceeding from India to Ceylon or Lanka. Singhon as the Siamese term the latter, the Bali Singhala or Sihala Thippe (Dwip), in order to expel—it should I apprehend have been “to teach,”—the Yakshas who held dominion there. This *expulsion* was not in accordance with the humane disposition of Buddha, unless he really believed them to be evil spirits or demons, and he ought to have known the contrary if he possessed the prescience attributed to him by his followers. In the Mahawanso [1] the Buddhists have tried to make the act appear a humane one—by assuring us that the Yakkhos were demons, or rather that the inhabitants of Lanka were Yakkhos (or demons). Buddha “caused the delightful Isle of Giri to approach for them and as soon as they had transferred themselves thereto [to escape the conflagration he had raised] he restored it to its former position.” But the Yakkhos and Yakkhini appear from the seventh chapter of the Mahawanso to have fully occupied the Island after Buddha had gone back to India. Mr Turnour remarks on this subject [2] “It would appear that the prevailing religion at that period (the arrival of Vijayo) was the demon or Yakkha worship. Buddhists have therefore thought proper to represent that the inhabitants (of Ceylon) were Yakkhos, or demons themselves, and possessed supernatural powers.”

The descendants of these Yakkhos were looked upon by the

[1] Turnour's Transl. of Mahawanso v. i c. i p. 3rd & do. c. vii p. 48.

[2] Introduct. to Mahawanso v. i p. XLV.

Candians as little better than evil spirits—and in this outcast and degraded condition they might ever have remained, had not British rule succeeded to the ruthless despotism of the Rajas of Candy. In the Mahawanso it is stated that there was a Sovereign of the Yakkhos.

These Girgássí of Srí are stated to have had no Raja, but only Panghulus or chiefs over them, But by whom these were appointed is not mentioned. It is fair therefore to infer that a higher than a popular authority created the office—and that the seat of power lay in the direction of Siam. ⁽¹⁾

The Girássí or natives, by the account of our author, invited Má'ong Máháwángsá to become their chief. But their "astonishment at seeing him," is at variance with the inferences which plainly occur to us after reading, that his Málim knew the names of the bay and the Islands—that he himself knew the caste of the Girgássí, and conversed with them—if not in their own language, still it must be supposed in one which had been established as a common medium of intercourse betwixt the people of the west and east or of India and the Indo-Chinese countries. The precipitancy with which Máháwángsá settled and fortified himself might induce one to believe that he had sailed for this port with the intention to colonize the country per fas aut nefas, but altered his designs when left with one ship only.

The narrative is equally circumstantial regarding his return long afterwards to Róm. So these colonists were most probably, as I have already conjectured, natives of India. I have not yet been able to positively identify the site of Langkasuka. The quarter where I may hereafter be able to find its ruins, is clothed with dense jungle and is impeded by deep swamps and ravines or water courses. I have traversed on foot, as usual where neither elephants nor horses can be used, parts of this tract, and the outlines satisfy me of the statistical fidelity of our author. I hope yet to discover the spot. If the ruins were of any considerable magnitude however they would have been doubtless more easily discovered. I believe the village of Cuboh Balei to be close to the site of the original Town—But as that was abandoned after a while, it is probable the buildings were merely temporary.

Langkasuka means in Sanscrit the delightful, or joy inspiring Lanka—and سوكا suka, has been borrowed from that language by the Malays to express joy, gladness, &c. If the origin of Máháwángsá was to be predicated from this Sanscrit appellation, we should be compelled to consider him as having been a native of

⁽¹⁾ In Sumatra, the Peninsula (amongst the Binnas), Borneo, Celebes, &c., we find so many examples of a strong tendency to republican principles that there is much reason to think that the earliest institutions of the Archipelago were highly republican. There are several Malayan states at present in Sumatra and the Peninsula, the highest functionaries in which are Panghulus.—Ed.

India. The Siamese, to whom Keddáh belongs, designate it, as of old, Mùang Srài or Chrai, which so far corroborates our author's account. It is pretty obvious that such was the name of the Keddáh mountain if not of the country when Mábáwángsá is reported to have arrived, and I suspect his may not have been the first immigration from the west, while fresh accessions of Indians may have from time to time arrived after the colony became settled. The list of wild animals or game here given applies well to the locality at the present day, although it is more contracted than it might have been; for close along the base of the mountain Srée or Srài, now called by the Malays *Gunong Jerei*, but by the Siamese K'hau Srài, and in the surrounding forests, are to be found also, the elephant, various species of the feline tribe from the leopard cat up to the leopard and royal tiger, two kinds of the rhinoceros, the largest of which inhabits the plains, and the smallest the mountain, as I ascertained while ascending it, the Srigala or small dark brown wild dog, two species of the Bovine genus, which I have called Bisons, one being a very powerful animal and fierce. I have never seen one of these Srigala alive, although I have travelled for a month at a time through the deep forests of the Peninsula, but I saw a preserved one in the collection of my scientific friend Dr Cantor, who has doubtless already described it. There is also the wild goat or sheep called Kmbing Gurun or "wild goat" by the Malays. No description that I am aware of has yet been given of this animal, so that its precise zoological position has not been ascertained. Its habitat is on the inaccessible peaks and cliffs of the mountains, and especially the crags and peaks of the limestone formation, and it is a very difficult thing to catch or kill one. They are found generally beyond the range of fire-arms, and are very wary. I got a couple of horns and part of the skeleton [not the head] of one which had fallen from a precipice, and been killed, insufficient I apprehend to enable a naturalist to identify the species. The horns were about six or seven inches long, a little curved and of a blackish colour. I observed one of these animals far above my head standing on the point of the perpendicular limestone rock of *Khow Wong* near the frontier of Patani. It was of a dark colour, and appeared shaggy at the distance from which I viewed it. But it was too far off for a shot even from a Manton.

(To be Continued.)

FIVE DAYS IN NANING,

WITH A WALK TO THE FOOT OF GUNONG DATU IN
RAMBAU.

By J. R. LOGAN, Esq., F. G. S.

FIRST DAY.

[*Tuesday, 9th February, 1847.*]

THE time limited for my stay in Malacca was now nearly exhausted, but I could not bring myself to leave without having a glimpse, however fleeting, of Náníng. This country lies immediately behind the old boundaries of the European territory, and having been only amalgamated with the latter sixteen years ago, I anticipated that I should find its purely Malayan character still well preserved, and in strong contrast to that of the sea bord, where foreign elements so numerous and so varied have been infused, that the Malaccans, not only as a whole, but in the separate races of which they are composed, are stamped with a peculiar local impress. There were other strong inducements to visit it. The disjointed chapters of the primeval physical history of the country, inscribed in characters more or less legible in the slowly opening records of the wasting coasts, might be applied in deciphering the more obscure geology of the interior, and might, in their turn, receive fresh meaning from the latter. The spirit of old Malayan life too, preserved only in story, had once animated scenes now buried in the jungles of Náníng, or perhaps still the abodes of Malays, but as completely obscured, in all their ancient lineaments, to the eyes of their occupants, as if they had lain in a distant land. A closer interest was excited by recent events ending in the final disruption of that social and political system which had given its peculiar character to the older history of the country, and this revolution, in its course, had for a time converted the quiet pathways and silent forests into the scene of war. Lastly, I had a strong hope of being able to visit, in their own recesses, some of the singular ancient races of the country, long since pressed back into the interior by foreign colonists, and who, leaving the successive influxions of these to contest the dominion of the plains with each other, had, for many ages, secluded themselves in the deep jungles of the mountains.

When the preparations for my excursion were complete, I found that the very limited number of hack ponies in Malacca had all been previously engaged by Malays and Klings at high rates, for one of those frequent occasions on which the pleasure-loving Malaccans throng to Tajong Kling or some other attractive country spot, where, beneath moss covered and shady fruit trees planted by their forefathers, the tombs of Malayan saints of old are preserved with superstitious care. I was not long left in this difficulty, for the kindness of some of my European and Chinese friends speedily, at some inconvenience to themselves, placed a relay of horses at my disposal. To render the stages as easy as possible, I started two hours before day-break, accompanied by a Malay named Mahomed, who was to take me to the house of a friend of his in Náníng well qualified to escort me over the country. The road to the interior strikes across the paddy plain from the Trankerah road. The fields of paddy, stirred by a cold breeze, glimmered beneath the moon, and we passed cottage after cottage lying, with all their sleeping inmates, in perfect silence by the road side. The cold, mystic, melancholy aspect of the plain, which fancy might now people with the Hántus and other aerial beings who yet live in Malayan superstition, was a wonderful change from the warm and mellow scene which glows here when the sun is up, and like most other things in Malacca, very striking to a visitor from Singapore. We passed Rájá Néráng, Bákar Bátú, Tombá Málím, Birtám Kichí, Birtám Bésár, Kándáng, Gáung, Píning, and at 4 o'clock reached the limit of the plain, and ascended the gentle slope of the first hill at Málím. The road now lay through a black thicket of fruit trees. From Málím to Ching, where we changed horses, and thence to the next stage at Rumbiáh, our course was over a succession of connected or isolated hills, which were pierced or divided by winding flats, not broader than a small river and covered with paddy. The first hills rose in bold ridges, and the road wound along their lower slopes, but after passing these sea ramparts of the early continent, the face of the country rose and fell in ramifying, sinuous undulations, varying in their forms and dimensions, and with the hollows filled up to a certain level with the clay and sand washed by rains, and dug out by streams, from the hills around and the mountains behind. The road sometimes mounts to the summits and sometimes lies along the sides or in the depressions of the hills, and as its general direction is transverse to that of the

ranges, it is affected by all their inequalities, so that it never pursues a horizontal line for many paces, save when it descends into the flats and unites the slopes on either side by its low mound. The hills for a time continued to be covered with fruit trees, but soon the only trace of cultivation was the brushwood on their lower slopes, while above a dense forest stretched along the ridges. At Sungei Pitái we crossed the boundary of Náníng and entered the tract on which the Indian sepoy and the Malay had for the first and perhaps the last time met in conflict. The greater part of the road was strewn with laterite gravel. I remarked that the sides of the hills towards the north were in general steeper than those towards the south.

At Telimáh several shops, a tattered atap mosque, an ancient tomb or *krámát*, that of Bilaná Sultán, and some fruit plantations indicated that we were now in the heart of Náníng. At 7 o'clock we reached the hill of Alor Gájá. The road lies along the face of the hill, having on the one side, an open grassy tract covered with the remains of the British lines and bounded by low jungle which extends to the summit, and, on the other, a belt of fruit trees divided into several orchards, each surrounded by its fence and overshadowing a house. This cultivated slope rests on an unusually broad paddy flat, from the other side of which rises a lower hill surmounted by Fort Lismore, a small earthen fortification, along the ramparts of which an armed sepoy kept guard. The detachment of men stationed here appears to have for some years been quite unnecessary, as the Náníngites are, to all appearance, perfectly reconciled to the issue of the war, so far as the mere change of rule is concerned. Although the heavier impost to which they have been subjected is considered a hardship, there is no risk of its provoking them to any future outbreak.

To the west of the Fort, and upon the gentle slope at the base of the hill, extend, on each side of the road, a connected line of houses, nearly the whole of which are occupied by Chinese shop-keepers. At the entrance of this little village, another road strikes off to the south eastward, passing between the Fort and the paddy valley, crossing one of the branches of the latter, and then pursuing its course over hill and hollow to Ayer Pánás. At Alor Gájá we were received by my companion's friend, Abdulráhmán, who proved to be the *mátá mátá* of the district. The Náníng *mátá mátá* must not be confounded with the hired police peon of Malacca and Singapore. He is an unpaid and honorary police functionary,

whose lands are exempted from the tithe, and whose business it is to make himself a terror to evil-doers, and, when need is, to bring detected criminals to justice at Malacca. Abdul-ráhmán's house lay in one of the plantations on the right side of the road, and as it is a fair specimen of the style of the better class of houses in Náning, I will briefly describe it:—The body of the house is about 40 feet square and, like all Malay cottages, rests on posts, so that the floor is some feet above the ground. It is divided by a partition into a large and a small room. A few steps lead down from the former into a broad verandah or gallery, which runs along the whole front of the house, and at one end extends about 24 feet beyond it. The sides and partition of the house are of pannelled wood work. The ends of the verandah are of similar wood work, with a curiously carved narrow window, or rather a row of slits, in each. In front and at the back of the projecting end, a wooden parapet about 2½ feet in height forms the only obstruction to the free ingress of the air and light. On the wall of the verandah are hung some deer's horns and skulls, the trophies of the householder's forest craft. Fine mats are spread on a portion of the floor, and others lie at one end in readiness for any unusual influx of visitors, for the verandah forms at once the visiting, eating, and sleeping place for guests. The large room into which we ascend from the verandah, is only used as a reception room on feasts and other great occasions, and ordinarily forms a convenient store-room for the less valuable household stuff, such as baskets of different kinds, mats, &c. Around a wooden post in the middle are hung an abundance of spears, swords, and other weapons of several sorts, for the Malayan armoury displays a motley and curious assortment of weapons. A number of baskets of paddy, which had been newly brought in from the field and were not yet cleaned for the granary, were placed on the floor. The smaller room was my host's bed chamber, the only place in the whole kampong sacred to privacy. At one end was a curtained bed, and on the other were stuck or suspended some fire-arms and a great variety of krises, swords and knives. Some of the krises were sinuous in shape and damasked or striated,—slight rough ridges rising from the surface of the blade and giving it the appearance of a number of thin plates having been welded together and their edges left projecting. Amongst these weapons were the kris pánjáng, k. sampána, k. sapukul, chinangkás; kléwang, pidáng menangkabau, goláh Rambau &c.

Abdulrahmán pointed out a *krís* of celebrity, which had gleamed in many a foughten field in days of old and, as he said, "drunk much blood." This he regarded with a look of veneration, and prized as his most valuable possession. It is not simply from virtu that a Malay collects and cherishes so many different species of weapons. When the field was the grand source of distinction, arms which had served their owner well in his hour of need were held in high esteem by him and his descendants, while those worn by champions distinguished for their prowess, acquired the repute of being indued with the supernatural quality of giving invincibility to their possessor. As the lapse of time removed from around the memory of a warrior all the more vulgar attributes of humanity, raised him into an impersonation of heroism, and connected his deeds with the invisible powers who had favoured him, his charmed *krís* (*krís betuáh**) became environed by a spiritual halo in the imagination of the Malays.

To complete the picture of the *kámpong*, I must notice the kitchen, an attap fabric a few paces in the rear of the house, but connected with it by a covered platform of split *nibong*,—and the granary, a light and neat structure raised some feet from the ground, well-roofed, and having its sides of narrow bambu placed about an inch separate, so as to allow a free passage to the air. The paddy is not heaped on the floor, but stored in cylindrical receptacles about 2½ feet high and 3 to 4 feet broad, made by bending back upon itself a broad strip of the thick bark of the *Cooppong Tree* an instance of that adaptation, by the simplest processes, of materials ready from the hand of nature, into neat and useful articles, which so frequently strikes and pleases the observer in a Malayan country. A number of fowls and a few goats were scattered about the *kámpong* attending to the one business of their lives. Between the cocoanuts there are some dark-leaved coffee bushes which yield a crop of berries, scanty but sufficient for the use of the house. A

* Or *bertuáh*, which is evidently formed from *tuáh* by affixing the particle *ber*. The only meaning which *tuáh* now bears in Malay is that of old (the same idea being probably involved in the idioms *más tuáh*, *mérá tuáh* &c), and the radical acceptance of *ber-toáh* may have been simply "destined or charmed to a long life," whence it was extended to invulnerability, indestructibility, invincibility &c. But the idea of sacredness connected with the object, animate or inanimate, that is *betuáh*, may suggest that in this word a Polynesian sense of *tuáh* has been preserved. The Polynesian *átuá* (god), and the Malay *antu* (spirit) *tuan*, *tuanku* (master, lord) &c. all probably originate in the reverence and authority accorded to age, the immortality of the *ántu* and *átuá* being an extended longevity.

well trodden path leads to an open well on the margin of the paddy flat. Some pieces of wood placed on the lower side serve as the bathing place of the whole family male and female, and it is one of the peculiarities of Náníng that these bathing places are entirely open and uncovered. In bathing the sarong is not taken off.

The owner of all these possessions, and of the paddy fields in front, welcomed us at his gate, and struck me by his abrupt and homely manner, so different from that of the Malays in the town. A good deal of this I found afterwards to be peculiar. His character is plain, direct and in a remarkable degree energetic. He is, compared with many, rude and little tinctured with the pedantry of Islamism, but endowed with strong practical sense, getting at once as deeply into the heart of a subject as his mental range enables him to go, without beating about the bush. At first his manner was embarrassed and apparently dry, and his efforts to break through the restraint under which he laboured were abrupt and highly grotesque. When we ascended into the verandah he blurted out his welcome again, jerked his head about, bent his body forward, and shifted his position every second. He was most delighted, he said, highly honoured, but oppressed with shame. His house was such a miserable hut, and he was such a poor, ignorant, vile person, mere dung in fact! "Sáyá oráng méskín, tuán,—oráng bodo,—tái," and so he continued vilifying himself, and accompanying each new expression of humility by a sudden and antic alteration of his attitude and position. An ample repast of boiled rice, fish, &c., was soon spread on the mats, and I now learned from Mahomed that our host had left his house in Malacca the preceding evening, and walked 18 miles during the night to have breakfast ready for us at an early hour. The Malay coolies who had been employed in carrying my baggage sat down with my host and Mahomed. A separate array of dishes was provided for me at a little distance upon another mat, and I was invited to occupy the only chair that the house afforded. As the chair was rickety, and table there was none, I preferred following the custom of my neighbours.

Having learned that the Rambáu mountains were within half a day's distance, and that there was a path to a famous *krámát* on the summit of the highest, I resolved to make the ascent instead of proceeding directly to Ayer Pánás as I had intended. We started at $\frac{1}{2}$ past 7, Abdulráhman being induced with great difficulty to take a seat in my palankeen

At the first paddy flat beyond Alor Gájá we found the road barricadoed with bambus on each side of the flat, a sort of turnstile allowing pedestrians to pass on. This mode of protecting the fields from the intrusion of buffaloes was frequently repeated, and sufficiently confirmed Abdulráhman's statement that there is not a horse or carriage of any kind in Náníng. The steepness of the hills and the corduroy bridges in the flats soon disabled our sorry hack from advancing further, and we therefore abandoned the palankeen and proceeded on foot. Ascending the brow of the first high hill, a grand vista suddenly opened. A country, billowy like the sea, lay stretched before us, and above its farthest undulations rose the mountains, not now invested in the dim blue veil which they had hitherto worn, and which reduced them to mere geometrical figures, but raising their swelling forms in all the massiveness of close proximity. Ridges, descending from the highest summits and advancing slightly from the base, like vast butresses, expanded in the warm shimmering sun-light, and broad and deep ravines reposed beneath their cool shadows, while one dense and continuous forest clothed the whole. The road continued over elevations and across narrow level flats, winding amongst them, and thus alternately hid the mountains from our sight and revealed them with increasing grandeur. The first considerable elevation,—after passing a place called Prígí To Dáto (the Chief's well),—is the hill of Sábusáh which is covered with brushwood. Beyond it we passed the village of Málikké where a Pánghulu resides. That the reader may not be misled by a name, I ought to explain that it is only on the sea coasts and on the banks of the rivers, that a Malayan village approaches to a European one in the number and contiguity of its houses. In the country there is in general nothing to which the name can be properly applied, save those places where a considerable number of small orchards, each with its cottage, adjoin each other. In the case of Málikké, two Chinese shops added to the importance of the village, and indeed were nearly all that could be seen from the road. The whole tract called Málikké contains about 50 houses. A stream called Ayer Punge was shortly afterwards passed.

The next hill, Pírlíng, was of greater height and bolder form than any that we had passed since leaving Alor Gájá. The surface and upper layer contain a large quantity of lateritic gravel. A large portion of it was covered with hill paddy (páddí umáh). This species of cultivation according

to the Malayan method is a very peculiar one, a crop being taken from the same ground only once in every 8 or 10 years. When the original forest is felled and burned, adding a large quantity of wood ashes to the surface layer of vegetable matter, the first crop is sometimes succeeded by plantains and other vegetables, which are hardly and often not at all cultivated, and seldom visited save to take their produce. Instead of renovating the vigour of the soil by tillage and manuring, it is given back into the hands of nature for years, until a young forest has grown up to a considerable height, and supplied materials for a new fertilizing ash. A single paddy crop is now all that the husbandman generally ventures to take, and this system continues ever after. Where the road crosses the brow of the hill, Abdulrahman pointed out the site of one of the principal stockades of our old enemy Dul Syed, the Pánghulu of Náníng. So important did he consider it from its vicinity to his own village and its strength, that he called it the key of Tábo. A narrow paddy flat, of which the water was of a remarkably strong brownish red colour, separated Perlíng from the next elevation, which has a wide undulating summit. The soil near the flat is of a brownish white, but it soon changes into brownish red, with an abundant mixture of lateritic gravel and frequent solid, calcined looking blocks of brownish yellow and brownish black colours. These at some places protrude in such numbers as to render the whole surface utterly barren, and give it the appearance of having been burned. In some places small quartz fragments are mixed with the lateritic gravel.

The country now became more open, and after crossing a low hillock in which a bluish slatey micaceous rock has been left unaltered by plutonic action, the extremity of another steep hill, and the flats between them (the only named localities in the tract being Bungá Tánjong and Báli Munkur), we had only a narrow flat between us and the hill of Tábo. On the left a paddy valley of considerable size, (into a lower part of which run the flats which we had just passed) swept round the north west side of the hill,—a very gentle slope covered with old fruit trees, amongst which cottages are scattered. On this side of the village the earthen rampart of the Pánghulu still stretches along the face of the hill. The road cuts through it, passes the village burial ground, where there are many rude tomb stones of unhewn upright slabs of granite, and then runs close above the village, over an open tract covered with a

thin sward. Several rocks protrude here, which have more or less a calcined appearance or are merely laterised. The whole, as well as all the hills from Alor Gája to Tábo, are a micaceous clay, which has at many places been transformed by subterranean thea and gases.* Near the northern end of the village I noticed a luxuriant ipo tree, the juice of which forms an ingredient in the poison by which the darts of the sumpitan are tipped.

The main operation of the Náníng war seems to have been the conveyance of a mortar and a 12-pounder howitzer from Rumbíah to the Panghulu's village at Tábo, a distance of 12 miles. For this purpose the road had to be widened and rendered passable, and in 115 days, at an expense little short of £100,000, the road over which I had just passed was constructed and the 12 miles march accomplished. If British troops cannot proceed a few miles into the Peninsula without carrying mortars and 12-pounders with them, the fewer petty Malay wars the Government provokes the better. It is true that when the artillery was brought up to Tábo opposition ceased, for the stockade was carried without the loss of a man on either side, but it may be doubted how far the artillery was essential to this result when we learn that the howitzer could not be got over some felled trees in time to be used, and the mortar apparently stuck in a paddy field. So that all the previous felling of innumerable trees and making of mounds over swamps, for the sake of the ordnance, had ultimately no other effect than to delay the issue of the contest for three months, and expose our troops during all that time to harassing attacks from the bush fighting Malays. A strong party of seamen would have taken Tábo in a few days, and so would the gallant Madras troops if they had trusted to their own good arms and left the guns at Malacca. It may be suggested however that a body of Macassar men, officered by Europeans and lightly armed and clothed, would prove a more effective force in a hill and forest contest with Malays, which any war we may ever again have in the Peninsula is likely to be, than any other description of troops. They would do their work rapidly, and at a vastly smaller expense than 300 dollars for each

* At Tábo the original rock, of which the traces are slight, is a bluish and reddish fissile micaceous clay. The plutonic action has rendered the greater portion of the rocks visible at the surface, whether gravel or protruding blocks, scoriiform, partially quartzose, or lateritic. The larger proportion have the calcined appearance which rocks containing much iron assume on its complete oxidation.

man in the population of the territory to be subjugated,* a sum ten times the value which a Malay bears in most parts of the Archipelago.†

We now left the carriage road and struck off in a westerly direction, crossing a dry sandy flat at the foot of the hill, and then the stream which feeds the paddy valley below. Our path now lay along an inhabited elevation called Chírána (sometimes Chína) Pūteh on which the *gomuti*, *ijo* or *kábong* palm was intermixed with cocoanuts &c. At the foot, patches of the sago palm occurred frequently. Several cottages were scattered along the summit of the hill. We next crossed a swampy flat, and here, for the first time in Náníng, the path failed. My companions however cautiously feeling their way soon found a hard sandy path beneath the line of deepest water. The heat had now become so great that this wade was very agreeable and refreshing. We proceeded across a dry, flat or slightly undulating, sandy tract, in a direction nearly parallel to a high and steep ridge at a short distance on the right, called Bukit Páyong. The sides were mostly covered with low jungle, shewing that *páddi umáh* had been extensively cultivated. The mamillary summits were still covered with primitive forest. Our path continued for some time over the same ground, and through low brushwood or jungle. Not a single rock fragment or pebble had hitherto occurred, and I was somewhat at a loss whether to consider the tract as the product of a quartzose granite disintegrated on the spot, or the debris of the mountains. At last the head of a granite block appeared in the path and removed all doubt. The small specimen which I obtained was a fine grained aggregate of whitish felspar, translucent and yellowish quartz of a resinous lustre, and blackish-red mica, holding some large crystals of mica. One of my chief motives in extending my journey to the mountains, was the expectation of being able to trace the line where their granitic rocks rose through the laterized sedimentary strata of the low hilly country, and my disappointment was great on now finding that I had passed the line without obtaining any trace of

* The number of men in the whole population of Náníng at the time of the contest (1832) was about 1,500 (Beghie, p. 149.)

† The Náníng war is not likely to be soon forgotten by the Malays, for they have made it the subject of a satirical poem, in which the proceedings of our civil and military authorities are rather roughly handled. Its account of the "disastrous chances, the moving accidents by flood and field" forms an amusing comment on Captain Beghie's narrative.

it. It must lie in the narrow swamp across which we waded, because the hill of Chíráná Pūteh, which sinks into it on the west side, is lateritic, and the sandy tract that commences on the east side is a continuation, and possesses the character, of the tract where the granite was first seen.

Presently the scene changed. We emerged from the jungle and stood on the margin of a broad undulating tract of páddí umáh, covered with the trunks and larger branches of trees which had been felled, and stretching, to appearance, nearly up to the foot of an elongated mountain mass, Gunong Berágá. I was at once struck by the strong resemblance of this portion of the Rambáu mountains to those of Pinang. The summit line is irregular, being formed by the tops of great steep ridges which project, and are separated by broad and deep ravines. The form and character of the mass are so identical with those of the Pinang mountains that, having on another occasion given some detailed descriptions of the latter, any further remarks on this part of the Rambáu mountains, would be a mere repetition. Midway across the cleared tract, and not far from some small huts inhabited by the paddy planters, we passed a long moat like depression in the ground, which, according to Abdulráhmán, marks the boundary between Náníng and Rambáu. The scattered inhabitants on the border of our territory, he said, were mostly bad characters*, and he pressed on without holding any communication with the few whom we saw. The soil is a coarse quartzose clay or decomposed granite. A large block of this rock rises above the surface at a little distance from the path.† After crossing the cleared tract, a work of some difficulty from the number of prostrate trees, we again entered the jungle.

A few minutes later brought us to the *Kubur Feringí*, or Grave of the European, a long earthen mound beside the path, about three feet in height, which has no resemblance whatever to a grave of any form, and appears rather to be the wasted remnant of a Malay rampart.‡ I could not learn whether the Portuguese had ever advanced so far into the interior, but it is probable that they did,

* This, for obvious reasons, must always be the case on our frontiers in the Peninsula. It is so in Province Wellesley.

† It is similar in composition to that previously mentioned, but larger grained, and containing many large oblong crystals of felspar. In decomposing, the felspar in many places becomes deeply stained with blackish brown and rusty colours, and these blotches contain much iron.

‡ The original and correct name may have been *Kubu Feringí*—the European rampart.

and that one of them who had died or been slain was buried at this post. In a short time we left the jungly border and came into a fine open country. A moist flat on the right was covered with paddy, and here and there women were busily cutting it. A thick belt of forest lay between it and Gunong Berágá, which rose, great and beautiful, on the opposite side of the narrow plain. Gunong Dátu was now seen, apparently still at some distance in front. Our path followed the margin of the dry tract raised eight or ten feet above the plain, and into which a little stream, fresh and cold from the deep ravines of Berágá, was eating. On our right there was a succession of neat cottages amongst cocoanut trees, forming the village of Kándáng. On nearing one of these our ears were saluted by the most melodious sounds, some soft and liquid like flute notes, and others deep and full like the tones of an organ. These sounds were sometimes low, interrupted or even single, and presently they would swell into a grand burst of mingled melody. I can hardly express the feelings of astonishment with which I paused to listen and look for the source of music so wild and ravishing in such a spot. It seemed to proceed from a clump of trees at a little distance, but I could see neither musician nor instrument, and the sounds varied so much in their strength that their origin seemed now at one place and now at another, as if they sometimes came from mid-air and sometimes swelled up from the mass of dark foliage, or hovered, faint and fitful, around it. On drawing nearer to the clump my companions pointed out a slender bambu which rose above the branches, and whence they said the musical tones issued. I was more bewildered than before, but they proceeded to explain that the bambu was perforated, and that the breeze called forth all the sounds. Every one knows of the multiplied uses of the bambu, how, entire or split as the purpose requires, it forms posts, masts, yards, ladders, chairs, stools, screens, floors, roofs, bridges, &c., how, when smaller, it is an elastic material out of which a great variety of baskets and receptacles are formed for containing solids, and how its joints make neat and convenient bottles for holding and carrying liquids, or, when fine, are fashioned into flutes. But here was the crowning triumph of Malayan art, and the most wonderful of all the applications of the bambu, for what could be more bold and ingenious than the idea of converting an entire bambu, rough from the jungle and thirty or forty feet in length, into a musical instrument

by simply cutting a few holes in it. As I had an opportunity afterwards of getting possession of one of these *bulu ribut*, or *bulu perindu* (storm or plaintive bambu) I will explain their construction in a future page.* As we proceeded, and when the notes had died away in the distance, our ears were suddenly penetrated by a crash of grand and thrilling tones which seemed to grow out of the air around instead of pursuing us. A brisk breeze which soon followed and imparted animation to the dark and heavy leaves of the gomuti palms explained the mystery, while it prolonged the powerful swell. As we went on our way the sounds decreased in strength and gradually became faint, but it was not till we had left the bambu of the wind far behind us, and long hidden by intervening trees and cottages, that we ceased to hear it.

The scenery was now very agreeable and exhilarating in comparison with Náníng. There, interminable hillocks confine the view, and we never rise for a minute to a slight elevation without the certainty that we shall presently be again imprisoned in the next depression. Though there is much on all sides to please and interest, there is an absence of the higher elements of rural beauty. Here, for the first time since we left the sandy shores of Malacca, we were on a broad, dry, well peopled level. The cottages were nearly all good, a neat bambu fence marked off a space around each into which the buffaloes outside, which grazed lazily or lay in the shady spots or sunk in miry holes, were debarred entrance. The narrow swamps were exchanged for an open valley, and the sluggish muddy canals, in which the water was occasionally collected where not distributed over the fields, were here replaced by a lively mountain stream which sped on its way with a most pleasant and refreshing sound. Here and there deep hollows, from the sides of which the soil had been violently torn off and swept away, indicated the different aspect which this stream must have when the adjacent mountain

* Marsden in his Dictionary, voce بولك buluh, explains buluh perindu to be "a species of hambu snopped to yield a melodious and plaintive sound; a sort of eolian pipe, formed by cutting a slit in a bambu fixed perpendicularly and exposed to the action of the wind," and, as an example, gives the quotation—*Terlalu amat mardu bunyi-nia seperti buluh per-rindu rásáníá*, which he translates "most melodious was the sound, affecting the senses like supernatural music." It would appear from this that the plaintive bambu is used in Sumatra. All those which I saw in Rambáu and Náníng had a slit in each joint above a certain height, so that one hambu possessed 14 to 20 notes, each of which varied in itself according to the strength of the breeze. The joints decrease in their bore from the bottom to the top, and the slits also differ in their size and shape.

slopes are drenched with rain and every ravine sends down its tributary. At one place I heard water rumbling beneath our feet, and at another passed a deep isolated depression, where the ground had evidently sunk in from the excavation of the subsoil by the passage of water. In the next patch of low jungle we crossed the stream, which has here a channel six or seven feet in depth. The soil cut through by it is sandy clay, containing angular pebbles of quartz. We came upon the margin of the paddy valley again and shortly afterwards crossed a large stream, the Rambáu, which forms one of the affluents of the river Lingie. Its channel is here from 8 to 10 feet in depth and is bridged over by the trunk of a tree. We rested for a few minutes in front of the fence of a cottage which faces the bridge. The cocoanut trees were still, to my surprise, tall, thick, and with considerable clusters of nuts. Some patches of luxuriant sago palms filled the hollows at the sides of the stream. The owner hardly vouchsafed any notice of us at first, and, on our desiring to purchase some coconuts, raised difficulties, but, on one of my Malays offering to climb a tree, he proceeded, with apparent reluctance, to bring a long bambu armed at its extremity with a hooked stick, and detached a few coconuts. His reserve wore off a little and he entered into conversation, but his manner still remained dry and cold.

We now entered on an extensive level tract covered with coconut and fruit trees, and crowded with cottages, each carefully surrounded by a neat fence. This place is called Gádong and is under Háji Jáyá, an officer who was improperly termed Pánghulu by my informants. His proper official designation I could not ascertain. The few inhabitants whom we saw did not address us, and I was struck by the more formal and almost reserved air which not only they, but their fenced cottages also, wore. In other Malayan countries where I have been, but particularly amongst the Malays of Kedáh, everything seems to have an easy, careless, social look. The countenances and demeanour of the people compel you to address them with a friendly salutation and tone. Their very cottages invite you to enter, and you are so sure of receiving a hospitable welcome that you almost come to look upon their coconuts as purposely suspended outside for the use of the traveller. In Náníng there is a comparative deficiency of this genial spirit, but still it prevails, and I scarcely ever came within hearing of a cottage, without some of the

inmates calling out in a friendly and respectful tone, "Tuán máu pígi ká máno," "Where are you going, sir?", or passed a door, without being invited to rest. Here, on the contrary, we were suffered to proceed in silence, and it was not till we had paused to make some enquiries respecting the best route to the mountain, that some of the inmates of the adjoining cottages descended from their verandahs and entered into conversation. They expressed surprise on being told of the purpose of our journey, and presently asked Abdulrahmán what I was in search of. He said I was going to the top of the mountain also. At this they were or feigned to be perplexed, and said it would be necessary to see the Panghulu first. I said that was the first thing we had intended to do after resting a little to recover from our fatigue. We were conducted to the Panghulu's house, and made to wait at the door of his fence until some of our new acquaintances had gone in to apprise him of our proposed visit. They returned after some delay with the message that the Panghulu had gone to a kampong at some distance, to be present at the burial of a man who had died from the bite of a snake. This was rather discouraging, and as no invitation to enter was given although we were standing in the sun, we went to the margin of the dry land and sat down in the shade of some trees, a number of the villagers gathering round us. On the opposite side of the paddy valley in front, Gunong Dátu now stood close before us. A bare rock on one of the summits was pointed out as the *krámát*. I now endeavoured to persuade some of the inhabitants to guide us to it, but they said it was impossible until the Panghulu had given permission for my ascent, which they thought it would be difficult to obtain. They added that even he could not of his own authority allow me to ascend, and that he would have to hold a convocation of *tuáh tuáhs*, (literally "elders"), of his district, and discuss the proposition. I said I considered their mode of receiving an Englishman somewhat uncivil, that I had heard in Náníng that the sea and shipping could be seen from Gunong Dátu—which was a wonderful thing, and hardly credible considering how far inland Rambáu lay,—and that there were rocks of immense size on the mountain, that I was curious to see these things, and that when any of them came within our territories they were allowed to walk where they pleased without question, and make themselves as much at home as our own subjects. They said it was quite true that the sea, the ships, the Fort of Malacca, and all the islands

near it, could be seen from Gunong Dátu, a fact which they seemed to regard with great wonder. There were also stones larger than houses and many other strange things on the mountain, but it was not every one who could approach it, as it was guarded by supernatural powers and the forest was full of tigers. I could not learn with certainty whether their aversion to my ascending it was political or superstitious, but it seemed to be partly both.* Although in conversing with me they endeavoured to conceal their real objections and avoid a positive refusal, they hinted that only Mahomedans could visit the krámát. In their conversation with my companions they insisted on this, but also declared with some warmth, that no European had yet ascended their mountain, nor had Rambáu ever been subject to Europeans, like the countries betwixt it and the sea. The European governments at Malacca have been so frequently at strife with the internal states that the fact of Rambáu being now the border independent one, must necessarily render its inhabitants very jealous of the British, and nurse in them the fear that their country is marked for conquest. They are also probably unable to appreciate any motives founded merely in curiosity or a desire of knowledge for exploring their country. Finding that there was no hope of being able to procure a guide, and as I could not wait without deranging my Náníng plans, I was reluctantly compelled to turn my back on Gunong Dátu. Abdulráhmán was highly indignant, and offered to lead me by night or day over any of the mountains within our own territory, tigers or no tigers, and my Malacca friend was so full of ire that he would not remain in the village to eat his dinner. For myself I must admit that I did not leave the place in the most charitable humour with its inhabitants, but when the lofty mountain peak with the tantalizing rock on its summit was out of sight, I became more reasonable, and consoled myself with the reflection that my six hours walk in the heat of the sun had purchased for future explorers who may chance to read these notes, the knowledge that they must procure a guide before they enter Rambáu, or, what would be better still, obtain permission to ascend the mountain through the good offices of the Malacca authorities. To incite those who may have an opportunity of visiting the mountain, I may mention that in addition to the other supernatural objects to be found on the summit,

* I suspected that they had some ill will towards my guide.

a Malacca Malay informed me that sea shells, pieces of cable and other marine remnants abounded.*

The whole aspect of Rambáu, so far as I proceeded, was so different from that of the proper Malay countries, that the eye alone told that here Sumatra was transported into the Peninsula. The houses and everything about them indicated a population industrious, thrifty, hardy, independent and republican. The pronunciation, customs and ideas had no tinge of the Peninsula, but were entirely those of Menangkábáu. This passage of the inland people of Sumatra across the Malayan lowlands of Sumatra and the Peninsula into the interior of the latter, without pause or commixture with the inhabitants of the sea-board, is a curious phenomenon. It still continues. I shall notice the remarkable institutions and governments of Rambáu and the adjacent states in another paper. They are pure Sumatran.

I will not ask the reader to bear me company on my return to Alor Gájá, as, save some additional and more minute geological information,† it presented only a repetition of what had attracted my notice in the forenoon. We reached Alor Gájá at 8 o'clock, having accomplished a twelve hours walk, and an entire day's journey of nearly sixty miles, without suffering. My Malacca companion, less accustomed to walking than the rest of us, had his feet much bruised by the lateritic gravel on the road, and was fain, when within a few miles of Alor Gájá, to borrow a pair of shoes from me.‡

* This is a very common belief, with respect to mountains of oote, in Malayan superstition.

† The Chiráá Puteh hills were found to be ironmasked. In front of the cottage facing the path across the swamp formerly mentioned (p. 33) there was a calcined stone. The people of the place said it had not been burned by them. Further along I found another stone of the same kind within a few inches of the common ironmasked rock of the locality. Proceeding on, I picked up some specimens resembling calcined sandstone. Subsequently to the above journey I found in Singapore, on the line of junction between the gneissic and sedimentary rocks, some massive remnants of sandstone and conglomeritic layers, which are completely identical with my Chiráá Puteh specimens. These rocks are very instructive, shewing the mode in which the sandstone has been converted into granite, and explaining the singular appearance assumed by the latter prior to conversion, under the influence of the heat and ferruginous emissions proceeding from the former. To find a precisely similar and peculiar transformation at the line of junction, at two places so distant, is a striking illustration of the correctness of the views of the formation of the Malay Peninsula, which I have explained elsewhere (ante vol. II. On the Physical Geography and Geology of the Malay Peninsula.)

‡ A European is a much better traveller than a Malay even in the Peninsula. Where there is much exposure to the sun, as in this day's route, it is rather trying. But in the thickly inhabited parts of the Peninsula, where the paths lie through shady jungle, a Malay gives way sooner than a European, notwith-

I have little to add with respect to the physical features of the country over which I passed. There is a hot spring near Chiráná Púteh, and another at Sálánámá in Rambáu. We did not pass any tin mines, but tin has been procured near Tábo, and also near Chiráná Puteh.*

The Rambáu mountains appear to lie on the border of an extensive Alpine country, which does not anywhere near them attain to a similar height. As viewed from the southward, they form a group consisting of three great elongated masses or chains, separated by broad and deep depressions. Each successive mountain approaches in its direction to a N.W.—S.E. line. The one nearest our territories is called Gunong Támping. The next, which is placed further back, and stretches to the north westward of the first, is called Gunong Bérágá; and the last, Gunong Dátu, lies to the north westward of Bérágá. The summits of the two first chains exhibit comparatively small inequalities. Gunong Dátu has a more peaked appearance, but it is impossible by viewing such mountains from one side only to ascertain their absolute forms. Judging from the rocks of which the country at their base is composed, and from the account given of those found on the mountains by Malays who have ascended them, I believe that they consist of rocks of a granitic type, an opinion which we should almost have been justified in forming from the remarkable coincidence of their structure in the mass with that of the Pinaug mountains, and the fact of all the other mountains of this part of the Peninsula that have been examined, proving to be granite.

(To be Continued.)

standing his practice in crossing swamps and walking along trunks of trees and sticks.

* Newbold's Account of the Straits Settlements vol. I p. 260.

NOTES ON THE POPULATION OF JAVA.*

By JOHN CRAWFURD, Esq., F. R. S.

I served various civil offices in Java during the British occupation of that island from 1811 to 1817, and living thus for six years among a people very good natured, docile, accessible, and by no means wanting in intelligence, I enjoyed fair means of inquiry into the state of the population. This was confined chiefly to one locality, the city of Yugyakarta with its neighbourhood,†—the capital of the native prince who assumes the title of Sultan, and at whose Court I was, at the time, British agent.

Yugyakarta contained, at the time the census was made, 1814, a population of about 40,000 inhabitants. It lies in an extensive and fertile plain, 12 miles from the southern shore of the island, and about 15 from the basis of the mountain Marapi, an active volcano about 10,000 feet high. The town is nearly hidden from view by groves of fruit and ornamental trees always in verdure, and it is surrounded in every direction, for many miles, by an extensive cultivation chiefly of rice by irrigation, of which one crop follows another with little interruption throughout the year.

The town of Yugyakarta is about midway between the eastern and western extremities of the island, and lies in South Latitude $7^{\circ} 40'$. The average heat of the town and neighbourhood, little above the level of the sea, is about 83° —but in ascending Marapi it gradually diminishes, until ice is found at the summit of the mountain. Cultivation extends even so far up, where the thermometer falls at particular times to 55° , and here the garden vegetables of Europe are successfully cultivated. There is little difference of season, except into wet and dry, the north west monsoon bringing the first, and the south east the last. The salubrity of the climate is equal, I should think, to that of any tropical one. The extensive culture of rice by irrigation has certainly no injurious effect. I never heard it even alleged, and, indeed, it may be

* Drawn up at the request of the Statistical Society, and read before the British Association at Swansea.

† The Dutch orthography is generally very correct for the expression of native words, but in this particular case barbarous. The word is written Djocjocarta. The word is Sanskrit and a corruption of Ayudya-karta,—that is "Ayudya (Onde) the country of Ráná, arranged or put in order." The etymology is mythical.

observed that the wildest parts of Java, or those in which rice is least cultivated, are the most unhealthy.

The first statement which I offer to the Society is the abstract of a tabular view of the population of the capital drawn up at my request by the native authorities. The town is divided into quarters, called in the native language *campong*, a word which, in fact, means a village, and conveys a correct notion of what a Javanese town truly is, not an assemblage of dwellings laid out into streets, lanes and squares, but an aggregate of villages, generally parted from each other by stone walls or bambu fences.

Number of married men	10,188
Number of married women ..	10,355
Number of widowers.....	1,479
Number of widows ..	1,919
Number of unmarried lads	2,972
Number of unmarried girls	2,313
Number of boys not circumcised	3,956
Number of girls whose teeth have not been filed	3,274
Number of male infants at the breast.....	1,721
Number of female infants at the breast ..	1,447
<hr/>	
Total Population	39,624
<hr/>	

The number of dwelling houses is stated in the return at 10,271, and the number of out-houses at 7,354. The dwelling houses are, for the most part, neatly constructed huts covered with thatch and of a single story, and the inmates for each house are under 4 persons. The married parties exceed one half of the whole population, and these, including those who have been married, form above 61 in a hundred of the whole inhabitants.

The persons designated in the table as unmarried lads and girls are not what would be called in Europe bachelors and spinsters, but mere children who have just attained the age of puberty, and who are soon to be married. Marriage is a little longer delayed with the male sex, and this may account for their exceeding the females by above 28 per cent.

The next two headings "lads who have not been circumcised" and "girls who have not had their teeth filed" are literal translations from the original Javanese writing. The ceremonies referred to are, in fact, performed at the age of puberty, and this class of course includes children from the time they are weaned up to that period.

In the two next headings "male and female infants at the

breast," the males again exceed the females, and by above 12 per cent, a discrepancy which, if the return be reliable, is not easily accounted for. It may be, however, that, from greater care, more male than female children are reared, although the character of the Javanese would hardly bear out this inference.

On comparing the whole male with the whole female population, we find 20,316 of the first and 19,308 of the last, showing a small excess in the males of about 5.10 per cent, which may be accounted for by few of the men emigrating or being engaged in dangerous employments, as well as by the presence of a considerable number of men from the provinces without their families, performing corvee labour for the prince.

By comparing the number of married men with the women, (the excess of the latter is but very trifling, viz. 167 in 10,188,) we see that the effect of polygamy is almost imperceptible, a conclusion readily assented to, adverting to the principle which guides increase of population. The widows exceed the widowers by nearly 30 per cent, but the class designated widows includes, if I remember well, a good many persons of easy morality who go commonly by another name.

The next statement which I offer to the Society is the result of my own personal enquiry. Some travellers, in order to account for the supposed prevalence of polygamy in the East, had asserted that a great excess of females over males was born, and Java, in particular had been quoted as an example. Anxious to test the truth of this notion I personally took down the statements of 141 aged women on the subject. The details, as given by each individual, are now before me, and the following is an abstract of the Table in which they are set down. The parties were all in humble but still easy circumstances, as, indeed, in my time, was the case with the Javanese generally :

Number of Male children	..	..	..	..	472
Do. of Female do.	..	...	..	..	517
Total births	..	..	..	..	1,019
Died of small-pox	..	..	..	..	102
Died of other diseases	...	...	..	..	549
Total mortality	..	..	..	..	651
Lived to the age of marriage	..	..	..	..	368

From this statement, it will appear that the population of females born exceeds the males by 15.88 per cent or that they are as 111. 65 to 100. I give this statement exactly as I find it in my notes. The result, I remember surprised me at the time I made the inquiry, differing so widely as it does

from our European experience. An experiment on a larger scale, might indeed perhaps give a different result. According to the Census of the Eastern part of Java taken in 1815, the females exceed the males by about 4 per cent. In one district only, the eastern portion of Madura, there is a great preponderance of females who are to the males in the proportion of 110 to 100. I confess I am disposed to place some confidence in this return, from its going more into details than any other parts of the census, and from knowing that it was prepared by a most intelligent native chief, the late Panámbahan or prince of Sumanap. The population to which it refers amounted to 96,389 persons, all natives of the island of Madura. It may be observed that the Javanese and other islanders are themselves unaware of any disparity existing in the proportional numbers of the sexes.

Out of the hundred and forty-one women examined, seven only I find bore no children. Three only bore one child each, while 39 had had 10 children or upwards. Three had had each 14 children, one had 15, and two had 16. The average for the whole 141 was 7.226.

The age of marriage mentioned in one heading of the statement means the age of puberty when both sexes are deemed eligible for matrimony. Of the 1019 children born it appears that there died no fewer than 651 or 63 out of a hundred before the age of 14 or thereabouts. Of these nearly one-tenth were carried off by small-pox. In making their statements a woman would use such a significant expression as the following.—“I had eleven children born to me, but I *landed* only three.”

The last statement which I submit to the Society is drawn from a tabular view of the population of certain villages in the locality already described, including some kampungs or quarters of the town of Yogyakarta. The inquiry was conducted by myself personally, with necessary native assistance, and extended over many months. It is confined to a single year, that in which it was made, 1815-16. The obvious reason for this restriction was that the treacherous memories of the natives could not be safely relied on for a longer time, than from the festival of one year to the same in the ensuing one—a period so well defined, and so short as to be little liable to error. The following is an abstract:

Number of Villages...	188
Amount of population ...	40,688
Number of marriages within the year ..	514
Number of births within the year ...	1,691
Number of deaths within the year ...	696

The size of the villages was very various, ranging from 20 inhabitants up to 390. The mean was about 180. The proportion of marriages to the population appears from the statement to be about 1 in 79, but I believe them, in reality, to be much more numerous, for those given include only the marriages of youths and virgins, no notice being taken of second, third and even fourth marriages, which are not unfrequent with the Javanese, among whom the marriage knot is easily and often capriciously untied

The following tabular statement gives the proportion of marriages, births and deaths of the population, and the proportion per cent by which the births exceed the deaths, omitting fractions:

No.	Proportion of Marriages in population	Proportion of Births in population.	Proportion of Deaths in population.	Excess of Births per cent above Deaths
1	65	24	47	95
2	98	19	62	230
3	108	18	94	417
4	79	30	101	227
5	145	30	99	227
6	81	27	113	315
7	87	24	39	60
8	70	29	56	89
9	105	26	44	67
10	59	29	47	57

The proportion of deaths to the population appears to have been 1 in 58 and of the births 1 in 24, while the proportion of the excess of births above deaths to the whole of the living, is as 1 to 40. The period in which the population would double itself, therefore, would be 28 years. Imperfect, and limited as the data are on which this calculation is founded, it is, probably, not an exaggeration, judging by a comparison of the census of the population of the whole island made in 1815 with that made in 1845. The first of these gave a population of 4,175,974, and the last of 9,542,045 which shows that the number had more than doubled itself in 30 years.*

But the births and deaths bear very different proportions to each other and to the whole population in the different localities in which my enquiry was conducted, and I shall give a few of the results.

(1.) In 11 villages two miles from Yogyakarta with a population of 2,021, the births were 1 to 24 and the deaths,

* See *Contributions to the Statistics of the Population of Java*, by Dr Bleeker. Journ. Ind. Arch. vol. I p. 75.

1 to 47 of the population. The proportion of the excess of births above deaths, to the whole of the living would, therefore, give a doubling period of 34.30 years. To this group, as well, indeed, as to all the others which follow, the same observation applies that I made in regard to the town. They are all surrounded by irrigated rice culture, and all embosomed in, and interspersed by fruit or ornamental trees, appearing, in fact, until entered, more like groves than assemblages of dwellings.

(2.) In 9 villages situated on the elevated land at the foot of the mountain Marapi and containing a population of 2,056 inhabitants, the births were 1 to 19 and the deaths 1 to 62 to the population. The excess of the births above the deaths gave here, therefore, a doubling period of 19 years.

(3.) Eighteen villages with a population of 2,170 situated on the southern acclivity of Marapi and higher up than the last group gave the births as 1 to 18, and the deaths 1 to 94, to the inhabitants, making the doubling period here 15.59 years. These villages are situated at from 2,000 to 3,000 feet above the level of the sea, and the average heat may be taken at from 75° to 78°. None of them, at the time of the enquiry, had been settled above 20 years, and some of them as late as three. The fertile land was abundant and the command of water for irrigation complete. From the recentness of their establishment also, they were less encumbered with trees, and consequently better ventilated.

(4.) Seventeen villages distant 6 miles from Yogyakarta in a flat, fertile and highly cultivated part of the plain, with a population of 2,935, gave the births as 1 to 30, and the deaths as 1 to 101 of the population. The excess of the births over the deaths gave here a doubling period of 30.84 years.

(5.) Seven villages situated on the southern coast of the island, and about 17 miles from Yogyakarta, with a population of 2,187 gave the births as 1 to 30 and the deaths as 1 in 99, and the excess of births over deaths made the doubling period 30 years. Besides cultivating rice by irrigation, the inhabitants of these villages were occasionally employed in fishing, but precariously, owing to the great depth of the sea, and the heavy surge rolling on the open shore, one may say, without any interruption from the pole. They were employed more largely in the manufacture of salt by a peculiar process, which consists in throwing water from the sea on the sands of the beach which as soon as they are dry, (and this, from the heat of the sun, takes place in a few minutes,) are raked up and thrown into sea water, so that con-

centrated brine is immediately obtained, which is boiled into salt.

(6.) Eleven villages with a population of 2,268, ten miles distant from Yugyakarta and in a rich and flat plain in which are scattered the ruins of the ancient Hindu temples of Brom-banan gave the births as 1 to 27 and the deaths as 1 to 113 to the population, and the excess of births over deaths made the doubling period 25.298 years.

(7.) Eight kámpongs of the town of Yugyakarta containing 2,877 inhabitants gave the births as 1 to 24.59 and the deaths as 1 to 39.80 to the population. The excess of births over deaths gave here, therefore a doubling period of 45 40 years.

(8.) Another portion of the town comprising three kámpongs, with a population of 2,639 gave the births as 1 to 29.54 and the deaths as 1 to 56, the excess of the first over the last making the doubling period 43.662 years.

(9.) Sixteen inclosures with a population of 4,014 within the palace walls gave the births as 1 to 26.50 and the deaths as 1 to 44, while the excess of births made the doubling period 45.40 years.

(10.) Eight kámpongs in the heart of the town of Yugyakarta with a population of 3,391, gave the proportion of 1 birth in 29, and 1 death in 47. The preponderance of the last over the first would give a doubling period of 56 years.

For convenience, I give the details in a tabular form.

No.	Population	No. of Marriages.	No. of Births	No. of Deaths	Marriages to Population	Births to Population	Deaths to Population	Excess of Births above Marriages per cent	Doubling Period.
1	2,021	29	84	43	65	24	47	95	34.30
2	2,056	21	109	33	98	19	62	230	19.
3	2,170	20	119	23	108	18	94	417	15.59
4	2,935	37	95	25	79	30	101	227	30.84
5	2,187	15	72	22	145	30	99	227	30.
6	2,268	28	83	20	81	27	113	315	25.29
7	2,877	33	117	73	87	24	39	60	45.40
8	2,639	38	91	48	70	29	56	89	43.66
9	4,014	38	151	90	105	26	44	67	45.40
10	3,341	56	112	71	59	29	47	57	56.*

From these statements, it will appear that the births are

* In the paper as read to the British Association the Table of the latest census of the population of Java from No. 2 of this Journal was next given. But the reader may refer to it at p. 75 of Vol. I.—Ed.

fewest, and the mortality greatest, in the town, while the opposite state of things prevails in the country, and especially, in the more elevated part. All this is in accordance with our European experience. Even to the native constitution the clear air of the mountain side with the thermometer between 70° and 80° would appear to be more conducive to health than the close atmosphere of the plain where it is between 80° and 90°. Another inference may fairly be drawn from this enquiry, limited as it is, that a native population under the tropics in the enjoyment of peace, and with a fair share of industry, a sufficiency of fertile land, and a favorable climate, may increase as rapidly as an European one in a temperate climate with similar advantages.

I am quite sensible of the limited and imperfect nature of the statements I am now submitting to the Statistical Society, and I furnish them only because I am not aware that any similar ones for a tropical climate and an indigenous population have been laid before the public. Baron Humboldt's, for some villages in Mexico, are the nearest approach, but they relate not to a purely native, but to a mixed Native and European population.

A JOURNEY IN JOHORE.

By the Revd. P. FAVRE, Apostolic Missionary, Malacca.

THE many difficulties I had met with in the several journeys I had already undertaken in the Malay countries, from the petty chiefs who are established in each village, convinced me that it was almost impossible to succeed in such journeys without having previously obtained a regular passport from the rulers of the Malayan States. In September 1846, I therefore repaired to Singapore to obtain from His Majesty the Sultan of Johore, and His Highness the Tum-mongong of Singapore the necessary permission to travel in the Johore territory. As I was acquainted with the mother of His Majesty the Sultan, I had taken the precaution of obtaining from her a letter of recommendation to the Sultan ; by these means I found the way of communicating with His Majesty free from obstacle. I was received by him with remarkable familiarity and kindness, and a few days after the requested document, duly authenticated with the Sultan's seal, was delivered to me.

I likewise asked the same from His Highness the Tum-mongong of Singapore. I was neither received by him so familiarly nor so kindly ; he gave me however the permission requested ; but he gave it by word only, saying that the document already given by the Sultan was sufficient, and assuring me that the authority of the Sultan and his own were unum et idem.*

I left Singapore on the fifth of September ; I was accompanied by an Indo-Portuguese boy as servant, and by a Chinese as cooly ; the boat which conveyed me was of a small size, having two Malabar men as rowers, in case the wind should fail, and one as pilot.† My provisions consisted of a few gantangs of rice, and a small quantity of dried

* So far is this from being the case that the Tamnungong exercises all the authority and receives all the revenues of the Sovereign. Had M. Favre been aware of this and gone direct to the Tamnungong for a letter, he would have fared better in his journey. The Malays look upon the Sultan of Linga as the Sultan of Johore, and the British authorities apparently acquiesce in this, for although they have recognized Tuoku Allî as the successor of his late father the Sultan of Johore (by whom and the late Tamnungong Singapore was ceded to us) no steps have been taken to make this recognition more than nominal.—Ed.

† More mistakes. All the men should have been Malays, and furnished by the Tamnungong, who takes great pleasure in obliging Europeans who desire to visit Johore.—Ed.

fish ; and a few changes of dress composed my wardrobe. Experience had already taught me all the difficulties attending such journeys, and that a good and comfortable supply of food and of clothing though very useful, would, under such circumstances, be more cumbersome than advantageous, on account of the difficulty of transporting them. So I took with me only what was absolutely necessary to support my own existence and that of the two persons who accompanied me for the space of one month, the supposed duration of the journey I was then undertaking.

My intention was to enter the Malayan Peninsula by the river of Johore, and, continuing the route by land through the jungle, with which the Peninsula is almost entirely covered, to direct my march in the direction of Mount Ophir, and from thence to Malacca ; tracing from Johore to the latitude of Malacca, through the midst of the Peninsula, a line which had not yet been followed by any European, and perhaps by very few, if any, Malays. It will be seen hereafter, that several accidents prevented me from making the journey as I first purposed. My design was to visit the several wild tribes which were said to inhabit in great numbers the most interior part of the Peninsula, and to obtain respecting them, the most full and exact information which circumstances would allow me. I was also ordered by his lordship Dr Boucho, to ascertain if there would be a possibility of establishing a Mission amongst them.

My small boat, which left Singapore on the fifth of September at five o'clock A. M., with a most favourable breeze, was at 10 o'clock between Tanjong Changy, the most eastern part of the Island of Singapore, and Pulo Tikong ; doubling the western point of this small Island I reached, a few minutes after, a small Malay village near Gunung Báu. The name of the village is Tikong.* It consists only of a few miserable Malay houses, and is governed by a Panghulu who was absent ; I stopped there only a few moments and entered at once the Johore river. At half past eleven o'clock I reached another village called Pomatang where I landed. This second village is more considerable than the first, and is the residence of a Rajah then called Rajah Práng,† who was absent. I tried to

* The village of Tikong is on the island called Pulo Tikong Besar. Gunung Báu is on the mainland.—ED.

† This village is also on P. Tikong Besar. Rájá Práng is not a Rájá if by this term a king or ruler is meant. The Malay nobles and officials are fond of high sounding titles and cognomens (*nama gelar*). Many heads of Sukus, subordinate to petty panghulus, are called Máhá Rájá —ED.

obtain some information about the village itself as well as respecting the neighbouring places; but upon seeing me the inmates of the place fled, and I could scarcely succeed in reaching a few of them who appeared so much surprised and astonished that I could not obtain from them any satisfactory answer. I left the village about an hour after my arrival there; I sailed for Johore, where I arrived at four o'clock P.M.

Johore,* formerly the chief city of the empire of that name and residence of the Sultan, is situated about twenty miles up the river. The town was founded in 1511 or 1512 A.D. by Sultan Mahomad Shah II of Malacca who, after his expulsion from that place by the Portuguese, fled to the river of Johore. From that time the town of Johore has been the capital of the empire which took the name of the empire of Johore instead of that of Malacca.†

The inhabitants of Johore told me that their town was formerly a considerable one, that the Sultan who used to reside there had a fortified castle, and that the city was adorned by several handsome buildings erected chiefly upon some elevated ground distant a few hundred steps from the last houses of the present village going down the river. I visited the place but I could not find any remains of them.‡

The town of Johore has undergone the same fate as the empire; it has fallen entirely. It consists of about twenty-five or thirty Malay houses§ built on wooden poles, and covered with ataps and chuchos leaves; about the center of the village I remarked a Mosque built with planks, but it appeared to be in a miserable state, calling for repairs; the place is now of no importance.

Johore is the residence of a Panghulu who is appointed both by the Sultan of Johore and by the Tumungong of Singapore. The present Panghulu, who is called Jáwá, after having examined the credentials I had from the Sultan, received me very kindly. The men I had engaged at Singapore, refusing to go further, returned back with their boat. I passed the night in the house of a China man who kept a shop.

The next day, the Panghulu procured me a small boat with three men in order to go up the river to the small stream of Kamang. At ten o'clock A.M. I left Johore. At about twelve o'clock I was near Pulo Káyu Anák Besár; this is

* The town of Johore Lámá.—Ed.

† The seat of government was for some time in the Johore Archipelago.—Ed.

‡ The remains of an extensive rampart are still visible.—Ed.

§ The houses, like the inhabitants, are not Malay but Bugia.—Ed.

an island of about four or five miles in length ; near this is another smaller called Fulo Káyu Anák Kechil. At about six o'clock I arrived at the small river Kamang ; a few houses are found there, and a Panghulu resides at the mouth of the river ; the name of the Panghulu is Sápá. I passed the night in his house, and the men who brought me there returned to Johore with their boat.

The next morning it was a matter of no small trouble to get the Panghulu to procure men and a boat to take me up the river. As he knew that none would consent to accompany me if not allowed by him, he asked such a high price for each man and for the boat, that I could not agree with him. As he remained obstinate in his first demand, I thought it impossible to proceed further ; so I asked him at least for a boat and men to return back to Johore ; but this he roughly refused. I then began to be a little anxious, finding myself a prisoner in such a remote place, and in such hands. After breakfast we came again to a new discussion on the same subject, he then appeared a little more complying, and at last after a long parley, he consented to furnish men to convey me up the river for a moderate price. This man was no worse than any other Malay. It is generally admitted amongst them, that every one may use all means of making money whatever these means may be ; and if this man had not perceived that I had but very little money, I would never have passed on till a good part of it had found its way into his pocket. However I think that he is to be considered as an *honest Malay*.

I started from that place about ten o'clock ; nothing else remarkable occurred on that day ; only I was informed that near the river of Kamang are the remains of an ancient fort ; but I did not visit the place. About six o'clock I stopped to rest ; I slept in the boat, and as there was no place for a second person, my men went to sleep in a house on the right bank of the river.

On the 8th we could make but a few miles, the river being then obstructed by a great quantity of fallen trees. My men were often obliged with great trouble to cut the trees and their branches when lying across the river ; or to take up the boat to make it pass over the large pieces of wood they could not cut : this was somewhat dangerous on account of the depth of the river. At sunset I stopped in a desert place ; my men slept under a tree near the river on the left bank ; and I passed the night in the boat.

On the 9th at about nine o'clock A.M. I reached the junc-

tion of the two rivers Sayong and Negaoyoung with that of Johore; I was then informed that both were inhabited by Jakuns; but as many days would be required to visit them I continued to go up the river. In the evening I reached a place called Minkao, where are the two last Malay houses in a kámpong on the left bank going up the river, and where I likewise found the first families of Jakuns. They amount in that place to the number of thirty persons. On the opposite side in another kámpong named Kaupong Ynass are also found five families of Jakuns.

The incessant rain forced me to remain here two days. The river is here no more than twenty or twenty-five feet in breadth, but is very deep. I remarked that the river of Johore from its source to Menkao is called Sayong Besár by the aborigines, while they give the name of Sayong Kechil to the Sayong river, which I have before mentioned.

During my stay in that place I was informed that the great Panghulu Batín, who rules over all the Jakuns who inhabit this part of the Johore territory, was living about two hours from there; as the Malays who had brought me up refused to go further, I sent for him. The next morning he arrived with six other Jakuns; he promised to give me men to conduct me by land to the extremity of the Banut river. I therefore started with him in a small boat, in order to repair to his house. When I left the Malays to entrust myself amongst the Jakuns, I felt quite easy: I was much satisfied to find myself again amongst people whom I already knew to be perfectly honest, and most inoffensive. I had scarcely departed when a heavy rain began to fall, and it continued until the evening; we proceeded however up the river for about one hour, when the rain was so violent that the Batín declared that it was impossible to go further. We stopped at a Jakun's house on the right side of the river, which is in that place no more than eight or ten feet broad but yet very deep. As the branches of the trees which cross the river, had prevented us from keeping a covering upon the boat, we were all wet and in a very unpleasant state. We lighted fires in several places to warm and dry ourselves. Several of my men felt a little sick all the evening. Two hours after my arrival there, the Batín had a severe fit of fever, the Indo-Portuguese boy had likewise an attack, but slight. I was a little anxious about them; but the good appetite which every one of them shewed the next morning at breakfast cheered me up again. That day I repaired to the house of the Panghulu Batín, which is in the interior of

the jungle, about one hour's walk from the bank of the river. I stopped there two days, which I spent in visiting some neighbouring kampongs of Jakuns, and in collecting information about the place. I was told that the source of the Sayong Besar, that is, of the Johore river, was not far from there, near a hill which was pointed out, but I could not perceive it. According to this indication it should be quite in the centre of the Peninsula, about the latitude of the mouth of the Sidillí river. I wished much to go up the river to its source; but the Jakuns told me that this was impossible, on account of the great quantity of fallen trees which entirely obstruct it.

The Batin, whom I have mentioned, is an old man of about eighty years of age; he is duly appointed by the Sultan of Johore and by the Tamungong of Singapore to rule over two to three hundred Jakuns, living in a radius of about one day's walk from his house; this dignity was conferred upon him, about fifteen years ago, by two written documents, the first authenticated with the seal of the Sultan, and the second with that of the Tamungong. At the same time he received from each of these two authorities a spear adorned with gold and silver, as the insignia of his Batinship. On asking to see the written documents, I was answered, *sudá makán api*, they are burnt; but as to the two spears, as they were much more precious for these children of nature than a dead letter of which they could not understand the slightest part, they were also kept more carefully and daily used.

Before I proceed further with the narrative of my journey, I must say a few words about the river of Johore. This stream is probably the largest of the Peninsula. At its mouth it is about three miles wide; at an Island called *Pulo Layang*, a few miles above the ancient town of Johore, it is yet about two miles broad; after the two Islands, called *Pulo Kayu Kechil* and *Pulo Kayu Besar* are passed, it is from two to three hundred yards wide, but after that, it rapidly narrows, so that, a few miles further up, at the junction of the small river Kamang it is no more than thirty yards. It then diminishes very little in breadth till Menkao, where I found it twenty-five feet, and a few miles after only ten. It is to be remarked that this river, as well as several other rivers of the Peninsula which I have visited, do not become shallow in proportion as they become narrow; as I found fifteen feet of water at Menkao, where the river is no more than twenty-five feet broad. Thus Johore might be considered as navigable even for boats of considerable size until near its source,

if it could be cleared of the trees by which it is obstructed. I remarked that the jungle which covers both banks of the river abounds in rattans, chiefly in the upper part; there is also much dammar and garru-wood. These several commodities are to a small extent collected by the Malays, but in a much greater quantity by the Jakuns, who exchange them with the Malays for rice, cloth, &c. They are brought by the Malays to Johore, where several Chinese traders buy them and bring them to the market of Singapore. The banks of the Johore river are almost desert, a few Malay houses are the only habitations met with, and these ordinarily at a great distance from each other. The traveller proceeds some times half a day or an entire day without meeting any of them. There is nothing like a village except that of Johore. But in the absence of human beings, a great number of wild beasts are met with on both sides of the river. We perceived several tigers; and the many places where we observed their prints near the water, cannot leave any doubt as to the presence of this ferocious animal, which must be found here in great numbers. This fact is also confirmed by the Malays; several of whom assured me, that during the last six months preceeding my visit five Malays had been devoured by tigers on the banks of the river, and one in a boat on the water, for they assured me, that one of the five Malays above mentioned had been taken out of his boat by the animal while he was asleep during the night.

On the 14th I left the house of the Bâtín in order to reach the extremity of the Banut river. The Bâtín had for a long time tried to dissuade me from going further, assuring me, that there were several places where a gentleman could not pass. I asked him if he had never passed there. As he answered that he was accustomed to do so, "well," said I, "wherever another man can pass, I can pass also," and we started. I was obliged to take five Jakuns to carry my baggage, trifling as it was, because each man could only carry a very small load, on account of the difficulty of travelling. Part of the forenoon we spent traversing a country covered with rank grass, which reached to the height of eight or ten feet; the ground was low and covered with water, in which grew the above mentioned grass. We proceeded on our journey, having for long time muddy water up to the knee; a little after it reached as high as the thighs, and finally we found ourselves in mud and water up to the waist. Then I began to believe, that what the Bâtín had told me was true, but before turning back, I asked my guides if the

depth of the quagmire would increase further, and as they answered that we were just now in the deepest part, we continued our way, and in about half an hour after we found ourselves on dry ground. We entered a good foot path, but did not enjoy it long, for scarcely half an hour had elapsed, when we were obliged to enter mud again. In the absence of a foot path we followed a small muddy stream. We had no mud or water higher than the knee, and could have walked pretty fast if another impediment had not presented itself. This was occasioned by the thorny rattan tree which grows there abundantly. The leaves and branches which every year fall from that tree, and in the course of time enter the mud, must be a serious inconvenience to the traveller who is obliged to journey barefoot. This, together with the branches and the thorns of the trees by which the clothes are hooked on every side, render such travelling very difficult. We spent thus about three hours, and I suppose, we did not walk more than a mile and half. About three o'clock P.M. we arrived at a kampong inhabited by Jakuns, three houses five families and eighteen persons. These Jakuns have inhabited the place for many years; they have a large cultivated kampong well furnished with mangosteen, champadah and many other kinds of fruit trees. I remarked likewise a number of betel trees and sugar canes, and a large paddy field.

The Jakuns here are the most comfortably established I have ever met with. I was kindly received by the inmates of this solitary place; and my arrival was the occasion of a feast. All the population of the kampong being gathered together in the largest house, that in which I had already taken my lodging, cakes of more than one kind were made, and kladees were prepared with several sauces; a fowl was killed and presented to me; all the evening was spent in lively conversation and in singing, accompanied with drums. I was told that the place is entirely solitary, the nearest house being that of the Bâtin which I had left in the morning, and that on all other sides there were no houses nearer than those on the river of Banut, where I intended to go, and which could be reached in three days by a tolerably good foot-path through thick jungle. The next day the owners of the place gave me a fowl, some kladees, and other vegetables; and as one of them remarked that my Chinaman complained much of the weight of his loads, he offered himself to take a part of it as far as the Banut river; I willingly accepted this offer, and having given several articles in return for the hospitality I had received, I started.

We had pretty good roads and weather, until about 2 o'clock P.M. when a heavy thunderstorm burst over us. The Jakuns told me that it was impossible to go further for that day, and at once disappeared; I was anxious as to this, when I perceived them coming back, each bearing a large bundle of chucho leaves, by means of which a sort of shed was in a few minutes erected. We kindled a fire, to dry our clothes; and the rain continuing until dark, we huddled ourselves there together to pass the night, though as uncomfortably as possible. About nine o'clock we received the visit of a tiger, which did not harm us; he passed close beside me and the Portuguese boy, and continued his way quietly; we heard his roar in the neighbourhood, but we did not see any thing more of him. The next day, the Portuguese boy told me that he had been so much frightened by the sight of the tiger, that he could not sleep the whole night.

On the 15th we walked all the day, and nothing happened worthy of remark; We stopped in a desert place and slept as on the preceding night.

On the 16th at about two o'clock P.M. we arrived at a place named kampong Banut, where formerly there had been a village inhabited by Jakuns: their number had probably been considerable, since a large piece of ground had been cleared and cultivated. My guides told me that the insalubrity of the place had forced the inhabitants to abandon it several years ago; the jungle is already grown up, and a few years more the place will be scarcely distinguishable from the thickest forest. At sunset we arrived at the place where the Jakuns of Banut live at present. The population of the place amounts to eighty persons who are governed by a chief termed Panghulu. The whole of them inhabit comfortable houses, and they cultivate much rice; this grain with kladees, and a quantity of fish they catch in the river Banut, compose almost the whole of their daily food. I was received by the chief in the most kind and polite manner, and at his earnest request, I passed two nights in his house. I intended to go from there to the extremity of the river of Batu Páhát (the Rio Formosa of the Portuguese) and I had already agreed for a guide and coolies, when my Portuguese boy and my Chinaman declared that they were unable to continue the journey by land. Their feet were in a dreadful state; this was the effect of the bite of a kind of leech called by the Malays Puchat. As I have not yet seen this inconvenience noticed in any writing I will mention it here. These leeches are of a peculiar kind, small in size but very

numerous in the interior of the jungle. They are chiefly met with in damp weather; persons who are not accustomed to travel through the jungle sometimes suffer much from their bite, which is the more dangerous as very often it is not felt, thus giving them ample time to be cloyed before they are perceived; ordinarily the blood continues to trickle long after they are removed; and the wounds they cause are difficult to cure: I have seen wounds caused by them which after several weeks were yet quite fresh.

The state of my two men obliged me to take a new resolution. I agreed with the Jakun chief to convey me down the river to near the sea, where there is a small Malay village under a Panghulu. He provided me with his own boat, two of his sons and a third man. The Malay Panghulu I hoped would furnish me with men and a boat to convey me to the river of Batu Páhát. I intended by that way to re-enter the interior of the Peninsula, and prosecute my first intended journey.

On the 18th I left the Jakuns of Banut: Two days and a half were spent in coming down the river. The boat being unfit to sleep in, I passed the two nights on the bank, and as on both sides of the river the ground is generally low and covered with water to a considerable depth, we cut some forked poles, and upon these placed sticks cross wise, by which means we had a dry place to sleep upon. We experienced no other inconvenience during the night, but that caused by the rain from a thunderstorm which burst over us.

On the third day I arrived at the Malay village. The chief being at his paddy field, in a kampong situated a few miles up a small river called Pingan, I was obliged to repair to that place. I reached the Panghulu's habitation at about two o'clock P. M. The title of this chief is Panghulu Kissang, from his having for many years ruled a small place in the river of that name. He is an old man more than eighty years of age; his eyes seem to announce fraud and deceitfulness, hidden under a composed appearance. His children, to the third and fourth generation, form a numerous family. From information I received about this personage, a few days after my arrival at Malacca, I am induced to believe that both himself and the whole of his family have a bad character. They are considered as pirates, and the eldest son of the old father was hanged a few years ago at Pinang for having committed piracy and murder. I was not aware of this when I arrived at his house, but I had soon occasion to know this people.

The Panghulu was not at home when I arrived ; several persons of his family told me that he had gone to catch fish and was expected back in a few hours. They assured me that there would be no difficulty in finding a boat and men to take me wherever I intended to go. After such an assurance I paid the Jakuns for their trouble and sent them back to their habitation ; but scarcely were they departed when the conduct of the Malays changed. There were no longer means to find either boat or men ; and on the arrival of the Panghulu the difficulty increased. My Portuguese boy, having observed the behaviour of the Malays, said to me, "Sir you are in the hands of bad people ;" Ere long the event proved the correctness of his opinion. The Panghulu, on several pretexts, refused either boat or men ; and finally told me plainly, that, as he had not invited me to come into the place, it was not his business to take me away. I shewed the Sultan's letter. He considered that, being under the Tumungong only, he was by no means bound to obey the Sultan's order. I tried to make an agreement with some other Malays ; but as they knew the intention of the Chief, they refused to take me away on any terms. I asked likewise for a man to take a letter to Singapore. This I was also refused though I offered a good reward.

The Panghulu kept me one week in a small house in the middle of a paddy field remote from any habitation ; hoping that I would be soon tired of such an uncomfortable gaol, and offer a considerable ransom. As my provisions were expended, I asked to buy a fresh supply ; I was furnished with rice and sugar cane ; but fowl and fish were absolutely refused. On the fifth day of this petty captivity, a man was sent to me by the Panghulu, who assured me that I was free to go away, provided I previously paid a certain sum of money : I answered him, "Go tell the Panghulu that he shall never congratulate himself with having stolen any money from me," upon which he remarked that I would possibly be obliged to remain there a long time, but I told him, "I see no great inconvenience in that, since I am a single man, having no family." He repeatedly asked me "whether I was afraid of robbers?" "Why," was my reply, "should I fear robbers, since I have nothing precious for them to rob?" But said he "They could kill you ;" and I told him, "Did I fear to die I would not have come here ; but if I were attacked, possibly two of my enemies would die before me, look at this," showing him a double barrel gun which I had to protect me against the wild beasts, "it could be used

on such an occasion." Two days after, the same man came again, and having fruitlessly tried to make me agree to give money, he told me, that I could start the next day; but that the men who accompanied me, would be ten in number, and must be well paid. I could not imagine for what reason so many men were required to accompany me; I suspected that, fearing I might make a complaint against them after my arrival at Malacca, they might possibly intend to despatch me in the river or on the sea, where this could be more easily executed than in the Kampong; under this impression I told him, that four or five men being quite enough, I would not take one more. He went to see the Panghulu, and coming back, told me, that the next day, the boat would be ready.

On the evening of the same day, we remarked, that all the men of the Kampong had repaired to the house of the Panghulu. They spent the night there; when they made a dreadful noise, the cause for which I did not know. For several nights we had slept but very little, keeping a look out in case of being attacked, and being assisted in our sedulous watching by mosquitoes, which were there very numerous; but on the last night the mysterious manner in which all the population of the place had repaired to the house of the Panghulu still more excited our attention. About midnight I began to be sleepy, when my China-man awoke me saying that many men had come and were under the house, where they spoke for some time in a low voice, but the meaning of their conversation could not be understood. My two men appeared much frightened, thinking, as they told me, that this people at such an hour could only come for some bad purpose. But the conversation which had called our attention having ceased, we remained quiet the rest of the night and heard nothing more, except the noise which continued in the house of the Panghulu.

The next day at ten o'clock A. M. the boat being ready we prepared to start. I was surprised to find the Panghulu and his family apparently afraid, and making a long and tedious apology, for not having been able, as he said, to procure me a boat sooner. I suppose he was under the apprehension, I would take some revenge against him after my arrival at Malacca.

The river has its source about the center of the Peninsula. A boat can come down from its source to the sea in three days, and I suppose that five days would be spent in going up. It is very crooked from its source to the habitation of the

Jakuns, but not deep. I crossed it in many places, having water scarcely up to the thighs. But from the Kampong of the Jakuns to the sea it is very deep; in many places I could not reach the bottom with a stick of three fathoms. The two banks are so low that the true channel of the river cannot be distinguished without some difficulty: the great quantity of large trees which grow to the middle of the river make its bed easily lost; a boat is obliged to go among these trees in the same way as a traveller in the jungle without a foot path: a current always rapid, with these inconveniences, renders the navigation dangerous. It would certainly be very imprudent to undertake to navigate it without a guide well acquainted with the place. The Jakuns who guided me, though well accustomed to the locality, lost their way several times. At about five miles distant from its mouth, the river is clear from trees, and presents a fine prospect. The banks are now high, and a great part of the adjacent grounds have been cultivated in former times, although they are now almost entirely abandoned. A considerable number of alligators which are met with in the mouth of the river, and a few miles higher, astonish the traveller who for the first time navigates it. The river of Banut abounds with fish, and turtles of very large size. My guides caught several large fishes, and a turtle which weighed no less than sixty pounds.

About three miles from the mouth of the river, on the left hand coming down to the sea, there is a small village called Banut, consisting of about twelve or fifteen houses scattered over a space of nearly one mile. A Mahomedan priest resides here; there is also a Mosque but in a miserable state.

About one mile from the sea, also on the left hand descending, is the junction with the small river Pingan; about two miles up which is a kampong or small village called Pingan, consisting of eight or nine houses; this village is inhabited only a part of the year. The inhabitants of Banut come there in order to plant rice, and after the harvest they return to their ordinary habitations. The river Banut is thus inhabited by two kinds of men; the Malays, about forty or fifty persons in number, inhabit the lower part; and Jakuns, about eighty persons, are found in the upper part. The great interval which divides these two populations is entirely deserted.

GENERAL REMARKS ON THE INTERIOR OF THE SOUTHERN PART OF THE PENINSULA.

From the observations I made in this journey, and in

several others I performed in the interior of the Peninsula, I am induced to consider it in the following view.

That part of the Malayan Peninsula comprised between a supposed right line taken from the mouth of the river Cassang on the West coast, passing by mount Ophir and terminating on the East coast about half way from the Sedilli river to that of Pahang, and Point Romania, may be considered as almost a vast desert; only a few Malays are found in several places on the sea shore, and more or less on the banks of the rivers; and a small number of Jakuns inhabit the interior. I suppose all the population of that immense territory is not equal to a sixth or a seventh of the population of the single island of Singapore. The principal Malay villages are the following:—one on the West coast at Padang near the mouth of the Muar river; a considerable quantity of fruit was formerly exported from that place, but a great part of the fruit trees having been destroyed by Elephants a few years ago, the export is now of little consideration; one on Batu Pahat, or Rio Formosa, from whence ebony and rattans are exported; the village of Johore on the river of that name; and another I have not visited on the Sedilli river on the East coast.

The principal habitations of the Jakuns are found at the upper extremity of the rivers of Johore, Banut, Batu Pahat and Muar.

The interior of this part of the Peninsula is generally a low ground, at some period of the year covered with water in many places. A majestic and solemn forest, which extends itself over almost the whole of this immense space, bounds continually the view of the traveller, even when placed upon the hills which are sometimes, though seldom, met with. The gloom caused by the thick foliage of lofty trees, and the dull silence of the place, often joined with the humming murmur of rocky rivulets, produce the most melancholy imaginations, while the sight of some old trees fallen down calls to the mind the end of every earthly thing, and offers to the traveller an appropriate subject for philosophical meditation. The birds which, by their melodious language, might raise his mind to some gay and joyful reflections, are there in small number. The most numerous inhabitants of that land are the wild beasts. The panther falsely called black tiger by the Malays is one of the most common. The royal tiger appears likewise to be very numerous. Elephants are found in herds, but in some places only. I had been told that bears were not found in the Peninsula,

but I have been convinced of the contrary by my own senses. I am told rhinoceroses are to be met with in the thickest and lowest part of the forest, but I have never seen any of them. I have seen but few snakes, though the Jakuns assure me that they are very numerous; and not uncommonly they meet with a kind they call ular sáwáh, which appears to be the boa, of which some are of the size of the body of a man, and swallow a buffalo.*

The vegetation of the interior of the Peninsula, is one of the most luxuriant that can be seen: trees grow to the greatest size that can be reached.

Amongst the fruit trees, the durian is one of the most remarkable, it grows in the thickest part of the forest without any culture: the wild mangosteen and rambutan are likewise found in many places, and their fruit is but little inferior to those cultivated in gardens.

The interior of the part of the Peninsula I now speak of is certainly very productive. All low places appear to be fit for cultivating rice: and I have no doubt that sugar cane would succeed in many places, principally where is found the kind of palm tree called nibong by the Malays. I have seen in several instances sugar cane of an extraordinary luxuriance, though after having been planted by Jakuns it received very little care.

It is probable that the country is rich in gold and tin: at least the fact of its existence in several places induces me to believe that it must be found in others. There are tin mines on the banks of the Johore river. Several new ones were lately discovered in the piece of ground which lies between the two rivers of Muar and Cassang; and every one is aware of the considerable quantity of gold which is extracted every year from the mines of mount Ophir, though worked without proper means, and by a few persons only.

Many of the numerous rivers which open both on the East and West Coast, would be navigable to the center of the Peninsula if they were cleared from the fallen trees by which they are obstructed, and the exportation of the produce both of the cultivated ground and of the mines, would be thus rendered very easy.

* The snake noticed in the Journal of the Indian Archipelago, although no more than three inches in diameter at the thickest part of the body, swallowed a pig of more than fifty pounds weight.

on such an occasion." Two days after, the same man came again, and having fruitlessly tried to make me agree to give money, he told me, that I could start the next day; but that the men who accompanied me, would be ten in number, and must be well paid. I could not imagine for what reason so many men were required to accompany me; I suspected that, fearing I might make a complaint against them after my arrival at Malacca, they might possibly intend to despatch me in the river or on the sea, where this could be more easily executed than in the Kampong; under this impression I told him, that four or five men being quite enough, I would not take one more. He went to see the Panghulu, and coming back, told me, that the next day, the boat would be ready.

On the evening of the same day, we remarked, that all the men of the Kampong had repaired to the house of the Panghulu. They spent the night there; when they made a dreadful noise, the cause for which I did not know. For several nights we had slept but very little, keeping a look out in case of being attacked, and being assisted in our sedulous watching by mosquitoes, which were there very numerous; but on the last night the mysterious manner in which all the population of the place had repaired to the house of the Panghulu still more excited our attention. About midnight I began to be sleepy, when my China-man awoke me saying that many men had come and were under the house, where they spoke for some time in a low voice, but the meaning of their conversation could not be understood. My two men appeared much frightened, thinking, as they told me, that this people at such an hour could only come for some bad purpose. But the conversation which had called our attention having ceased, we remained quiet the rest of the night and heard nothing more, except the noise which continued in the house of the Panghulu.

The next day at ten o'clock A. M. the boat being ready we prepared to start. I was surprised to find the Panghulu and his family apparently afraid, and making a long and tedious apology, for not having been able, as he said, to procure me a boat sooner. I suppose he was under the apprehension, I would take some revenge against him after my arrival at Malacca.

The river has its source about the center of the Peninsula. A boat can come down from its source to the sea in three days, and I suppose that five days would be spent in going up. It is very crooked from its source to the habitation of the

Jakuns, but not deep. I crossed it in many places, having water scarcely up to the thighs. But from the Kampong of the Jakuns to the sea it is very deep ; in many places I could not reach the bottom with a stick of three fathoms. The two banks are so low that the true channel of the river cannot be distinguished without some difficulty: the great quantity of large trees which grow to the middle of the river make its bed easily lost ; a boat is obliged to go among these trees in the same way as a traveller in the jungle without a foot path : a current always rapid, with these inconveniences, renders the navigation dangerous. It would certainly be very imprudent to undertake to navigate it without a guide well acquainted with the place. The Jakuns who guided me, though well accustomed to the locality, lost their way several times. At about five miles distant from its mouth, the river is clear from trees, and presents a fine prospect. The banks are now high, and a great part of the adjacent grounds have been cultivated in former times, although they are now almost entirely abandoned. A considerable number of alligators which are met with in the mouth of the river, and a few miles higher, astonish the traveller who for the first time navigates it. The river of Banut abounds with fish, and turtles of very large size. My guides caught several large fishes, and a turtle which weighed no less than sixty pounds.

About three miles from the mouth of the river, on the left hand coming down to the sea, there is a small village called Banut, consisting of about twelve or fifteen houses scattered over a space of nearly one mile. A Mahomedan priest resides here ; there is also a Mosque but in a miserable state.

About one mile from the sea, also on the left hand descending, is the junction with the small river Pangan ; about two miles up which is a kampong or small village called Pangan, consisting of eight or nine houses ; this village is inhabited only a part of the year. The inhabitants of Banut come there in order to plant rice, and after the harvest they return to their ordinary habitations. The river Banut is thus inhabited by two kinds of men ; the Malays, about forty or fifty persons in number, inhabit the lower part ; and Jakuns, about eighty persons, are found in the upper part. The great interval which divides these two populations is entirely deserted.

GENERAL REMARKS ON THE INTERIOR OF THE SOUTHERN PART OF THE PENINSULA.

From the observations I made in this journey, and in

several others I performed in the interior of the Peninsula, I am induced to consider it in the following view.

That part of the Malayan Peninsula comprised between a supposed right line taken from the mouth of the river Cassang on the West coast, passing by mount Ophir and terminating on the East coast about half way from the Sedilli river to that of Pahang, and Point Romania, may be considered as almost a vast desert; only a few Malays are found in several places on the sea shore, and more or less on the banks of the rivers; and a small number of Jakuns inhabit the interior. I suppose all the population of that immense territory is not equal to a sixth or a seventh of the population of the single island of Singapore. The principal Malay villages are the following:—one on the West coast at Padang near the mouth of the Muar river; a considerable quantity of fruit was formerly exported from that place, but a great part of the fruit trees having been destroyed by Elephants a few years ago, the export is now of little consideration; one on Batu Pahat, or Rio Formosa, from whence ebony and rattans are exported; the village of Johore on the river of that name; and another I have not visited on the Sedilli river on the East coast.

The principal habitations of the Jakuns are found at the upper extremity of the rivers of Johore, Banut, Batu Pahat and Muar.

The interior of this part of the Peninsula is generally a low ground, at some period of the year covered with water in many places. A majestic and solemn forest, which extends itself over almost the whole of this immense space, bounds continually the view of the traveller, even when placed upon the hills which are sometimes, though seldom, met with. The gloom caused by the thick foliage of lofty trees, and the dull silence of the place, often joined with the humming murmur of rocky rivulets, produce the most melancholy imaginations, while the sight of some old trees fallen down calls to the mind the end of every earthly thing, and offers to the traveller an appropriate subject for philosophical meditation. The birds which, by their melodious language, might raise his mind to some gay and joyful reflections, are there in small number. The most numerous inhabitants of that land are the wild beasts. The panther falsely called black tiger by the Malays is one of the most common. The royal tiger appears likewise to be very numerous. Elephants are found in herds, but in some places only. I had been told that ¹ ~~the~~ were not found in the Peninsula,

but I have been convinced of the contrary by my own senses. I am told rhinoceroses are to be met with in the thickest and lowest part of the forest, but I have never seen any of them. I have seen but few snakes, though the Jakuns assure me that they are very numerous; and not uncommonly they meet with a kind they call ular sáwáh, which appears to be the boa, of which some are of the size of the body of a man, and swallow a buffalo.*

The vegetation of the interior of the Peninsula, is one of the most luxuriant that can be seen: trees grow to the greatest size that can be reached.

Amongst the fruit trees, the durian is one of the most remarkable, it grows in the thickest part of the forest without any culture: the wild mangosteen and rambutan are likewise found in many places, and their fruit is but little inferior to those cultivated in gardens.

The interior of the part of the Peninsula I now speak of is certainly very productive. All low places appear to be fit for cultivating rice: and I have no doubt that sugar cane would succeed in many places, principally where is found the kind of palm tree called nibong by the Malays. I have seen in several instances sugar cane of an extraordinary luxuriance, though after having been planted by Jakuns it received very little care.

It is probable that the country is rich in gold and tin: at least the fact of its existence in several places induces me to believe that it must be found in others. There are tin mines on the banks of the Johore river. Several new ones were lately discovered in the piece of ground which lies between the two rivers of Muar and Cassang; and every one is aware of the considerable quantity of gold which is extracted every year from the mines of mount Ophir, though worked without proper means, and by a few persons only.

Many of the numerous rivers which open both on the East and West Coast, would be navigable to the center of the Peninsula if they were cleared from the fallen trees by which they are obstructed, and the exportation of the produce both of the cultivated ground and of the mines, would be thus rendered very easy.

* The snake noticed in the Journal of the Indian Archipelago, although no more than three in chesin diameter at the thickest part of the body, swallowed a pig of more than fifty pounds weight.

A CONTRIBUTION TO THE KNOWLEDGE OF THE ICHTHYOLOGICAL FAUNA OF CELEBES.

By Dr. BLEEKER, *Director and Secretary of the
Batavian Society of Arts and Science &c.*

THE Ichthyological Fauna of the great island of Celebes has, up to this day, never been treated of by itself. The few notices regarding it are scattered through some ichthyographic and ethnographic works, principally in the treatises entitled—
“Schetsen uit de oostelyke streken des Indischen Archipels, door J Muller.”

“Overzicht der uit de Sunda en Moluksche Zeën bekende visschen van de geslachten Amphiprion, Premnas, Pornacentrus, Glyphisodon, Dascyllus en Heliases, door H. Schlegel & J. Muller.”

Both are inserted in the “Verhandelingen over de natuuryke geschiedenis der Nederlandsche Overzeesche bezittingen” as well as in the “Histoire naturelle des poissons” by Cuvier, Valenciennes.

In the various works I find mentioned 91 species of fishes belonging to the fauna of Celebes. Dr Muller alludes to the existence of some genera at this place, without giving a description of their different species.

By comparing all the known genera and species I obtained the following summary :

Familiae.	Genera	Species	Familiae.	Genera	Species
Percoidei.. . . .	13	31	Scopelogadidae.. . . .	1	1
Scleroparei.. . . .	3	4	Clupeosoces.. . . .	2	2
Sciaeoidei.. . . .	4	5	Clupeoidei.. . . .	4	2
Sparoidei.. . . .	3	3	Pleuronectoidi.. . . .	2	0
Chaetodontoidi.. . . .	10	5	Lophobranchii.. . . .	1	0
Ospbronemoidi.. . . .	2	2	Balistini.. . . .	3	3
Scomberoidei.. . . .	7	11	Gymnodonta.. . . .	1	2
Theutides.. . . .	1	1	Scyllia.. . . .	1	1
Mogiloidei.. . . .	2	1	Carchariae.. . . .	2	2
Gobioidi.. . . .	5	5	Squatiorajae.. . . .	1	1
Labroidae Ctenoidei.. . . .	4	10	Torpedines.. . . .	1	1
Labroidae Cycloidei.. . . .	6	2	Trygoes.. . . .	1	1
Siluroidei.. . . .	3	1	Myliobatides.. . . .	1	1
Scomberosoces.. . . .	3	5			
	66	76		87	93

The genera and species here mentioned are detailed in the following table. The habitats of many of these are known; of others nothing is yet ascertained, but that they are found on and along the coasts of Celebes:

Familiae	Species	Habitat.
Percoidae	Ambassis Dussumieri C. V.	Celebes
	Apogon novemfasciatus C. V.	Makassar
	„ nigripinnis C. V.	„
	Serranus Corallicola K. V. H.	„
	„ meria C. V.	„
	„ sexfasciatus K. V. H.	„
	Diacoep sebæ C. V.	„
	„ notata C. V.	„
	„ bitaeniata C. V.	„
	Mesoprion unimaculatus Q. G.	„
	„ annularis C. V.	„
	„ taeniops C. V.	Celeb Aq. dul.
	„ fuscescens C. V.	„
	Diploprion bifasciatum K. V. H.	Makassar
	Dules maculatus C. V.	Celebes Aq. dul.
	Therapon serous C. V.	Makassar
	Holocentrum orientale C. V.	„
	Sphyræna Commersonii C. V.	„
	Sillago acuta C. V.	„
	Polynemus tetradactylus C. V.	„
Scleroparei	Upeneus vittatus C. V.	„
	Slatycephalus scaber Bl.	„
	„ pristiger C. V.	Celebes
	Scorpaena picta C. V.	Makassar
Sciaenidae	Pterois zebra C. V.	„
	Otolithus argenteus K. V. H.	„
	Umbrina kuhlî C. V.	„
	Pristipoma kaakan C. V.	„
Sparcidae	Scoloprides vormeri C. V.	„
	„ lycogenis C. V.	„
	Dentexobutrus S. Mull.	„
	Gerris filamentosus C. V.	„
Chaetodontoidae	Caesio erythrogaster K. V. H.	„
	Chaetodon.....	„
	Heniochus macrolepidotus C. V.	Celebes
	Zanclus cornutus C. V.	„
	Drepane....	Makassar
	Scatophagus....	„
	Holacanthus.	„
Osphronemoidae	Platax.....	„
	Pimelepterus indicus K. V. H.	„
	„ marciac Q. G.	Celebes
	Toxotes jaculator C. V.	Makassar
Scomberoidae	Anabas scandens C. V.	Celebes
	Ophicephalus thiatu Bl.	Tondano
	Cybiu guttatum C. V.	Makassar

Familiae.	Species.	Habitat.
Scomberoides	Cybius Commersonii C. V.	Makassar
	Trichocirrus	"
	Chorinemus aculeatus C. V.	"
	" mauritianus C. V.	"
	Caranx Rotteri C. V.	"
	" Forsteri	Celebes
	" Xanthurus K. V. H.	Makassar
	Coryphaena chlorurus C. V.	"
	Stromateus niger C. V.	"
	Mene maculata C. V.	"
Theutides	Amphacanthus vulpinus M. Schl.	Celebes
Mugiloides	Mugil.	Makassar
Gobioides	Cestraeus plicatilis C. V.	Celebes Aq. dul.
	Gobius Celebicus C. V.	"
	Sicydium Cynocephalum C. V.	Menado
	Eleotris velo-branchia C. V.	" Aq. dul.
	Calionymus filamentosus C. V.	"
Labroides	Platyptera aspro K. V. H.	Celebes
	Amphiprion ephipprium C. V.	Makassar
Ctenoides	" percula C. V.	Celebes
	Premnas trifasciatus C. V.	Makassar
	Pomacentrus trimaculatus C. V.	Celebes
	" nigricans C. V.	"
	" albifasciatus M. Schl.	"
	Glyphisodon rathi C. V.	"
	" bengalensis C. V.	"
	" caelestinus C. V.	Menado
	" melas K. V. H.	Celebes
Labroides	Corfyphus schoenleinii Ag.	"
Cycloides	Julis.	Makassar
	Novacula pentadactyla C. V.	Celebes
	Cheilinus.	Makassar
	Epibulus.	"
	Scarus.	"
Silluroides	Pimelodus?	"
	Clarias.	"
	Plotosus lineatus C. V.	Celebes
Scomberesoces	Belone annulata C. V.	"
	" timucoides S. Mull.	Makassar
	Hemiramphus melanurus C. V.	Celebes
	" erythrorhynchus C. V.	Makassar
Scopelini	Exocoetus.	"
	Saurus Badicuo.	"
Clupeoides	Clupea (species plures)	"
	Engraulis.	"
	Elops saurus C. V.	"
	Megalops indicus C. V.	"
Clapesoces	Chirocentrus dorab C. V.	"
Clupeoides	Notopterus kapirot Lac.	"
Pleuronectoidei	Solea.	"
	Hippoglossus.	"
Lophobranchii	Syngnathus (spec. plures)	"

Familiae.	Species.	Habitat.
Balisteni	<i>Balistes lineatus</i> Sch.	M. kassar
	<i>Aluthera barbata</i> S. Mull. ..	"
	<i>Triacanthus biaculeatus</i> C. V. ..	"
Gymnodonta	<i>Tetraodon Houkenii</i> Bl.	"
	" <i>argenteus</i> S. Mull. ..	"
Scyllia	<i>Chiloscyllium punctatum</i> M. H.	"
Carchariae	<i>Carcharias (Prionodon) sorrah</i> Valen ..	"
	<i>Sphyrna Blochii</i> M. H. ..	"
Squatinoideae	<i>Rhynchonatus laevis</i> M. H. ..	"
Torpedines	<i>Narcine Timlei</i> M. H. ..	"
Trygones	<i>Taeniura lyman</i> M. H. ..	"
Myliobatides	<i>Aetobatis flagellum</i> ..	"

The above review shows sufficiently the analogy of this fauna to that of Java. Yet there are numerous species among those enumerated, which were never observed by me on or near the coasts of Java, and which are nowhere mentioned as being found on these coasts. The species not known in Java are the following, viz.:

<i>Apogon novem fasciatus</i> C. V.	<i>Eleotris velobranchia</i> C. V.
<i>Serranus merra</i> C. V.	<i>Amphiprion ephippium</i> Schn.
<i>Diacope bitaeniata</i> C. V.	" <i>percula</i> C. V.
<i>Mesoprius taeniops</i> C. V.	<i>Pomacentrus albitarsatus</i> M. Schl.
" <i>fuscescens</i> C. V.	" <i>nigricans</i> C. V.
<i>Dules maculatus</i> C. V.	<i>Cossyphus Schoenleinii</i> Agay.
<i>Platycephalus pristiger</i> C. V.	<i>Novacula pentadactyla</i> C. V.
<i>Pterois zebra</i> C. V.	<i>Belone annulata</i> C. V.
<i>Dentex obtusus</i> S. Mull.	" <i>timucoides</i> S. Mull.
<i>Chorinemus mauritianus</i> C. V.	<i>Hemiramphus melanurus</i> C. V.
" <i>aculeatus</i> C. V.	" <i>erythrorhynchus</i> C. V.
<i>Caranx Forsteri</i> C. V.	<i>Aluthera barbata</i> S. Mull.
<i>Coryphaena chrysurus</i> Lac.	<i>Tetraodon Honkenii</i> El.
<i>Amphacanthus vulpinus</i> M. Schl.	" <i>argenteus</i> S. Mull.
<i>Cetoraeus bicatilis</i> C. V.	<i>Narcine Timlei</i> Henle
<i>Gobius celebius</i> C. V.	<i>Aetobatis flagellum</i> M. H.
<i>Sicydium cynocephalum</i> C. V.	

Consequently, according to our present knowledge, we have 33 of the above enumerated 93 species, which are entirely strangers to Java, whilst the remaining 60 are found inhabiting the waters along the coast of Java.

Some weeks ago I received a small collection of fishes from Macassar, for which I am indebted to the kindness of my friend, the naturalist traveller *Zollinger*, who collected them for me during his stay at that place. Though this collection consists only of 21 species, yet it is remarkable for the following peculiarities, viz.:

1st.—15 species are new to the Fauna of Celebes.

2nd.—4 species cannot be classified amongst the genera known hitherto, but render it necessary to form 4 new genera.

3rd.—Besides these 4 or at least 3 species, there are 8 others also new to science, so that one half of the collection consists of species altogether unknown.

4th.—The remaining 4 species already known also belong to the fauna of Java.

The species of this collection belong to 9 families and 18 genera, viz.:

Percoidei—Therapon theraps C. V.	Mugiloidei—Atherina argyrotaeoiata Blkr.
Holocentrum leonoides Blkr.	
Sillago acuta C. V.*	Siluroidei—Plotosus lineatus C. V.*
Sparoidei—Dipterygionotus leucogrammicus Blkr.	Scopelioi—Saurus badi Cuv.*
Apogonoides macassariseosis Blkr.	Clupeoidei—Clupea gibbosa Blkr.
Chaetodontoidei—Drepane guttata C. V.	„ argyrotaeniata Blkr.
Scatophagus argus C. V.	„ macassariseosis Blkr.
Toxotes jaculator C. V.*	Amblygaster clupeoides Blkr.
Scomberoidei—Caranx leptolepis K. H.	Engraulis zollingeri Blkr.
„ pseudopterygius Blkr.	Balistioi—Balistes melaoppleum Blkr.
	Pogonognathus barbatus Blkr.
	Triacanthus biaculeatus C. V.*

The species marked thus * are found in the tables at the head of this contribution. By the 15 species new to the Fauna of Celebes the number of all the species of its fishes is raised to 108, that of the genera to 91, viz.:

Percoidei	13 Genera, 23 Species.
Sparoidei	5 5
Chaetodontoidei	10 7
Scomberoidei	7 13
Mugiloidei	3 2
Clupeoidei	5 7
Balistini	3 4

leaving the numbers of the remaining families as enumerated in the beginning of this treatise.

Overlooking the species marked *, we find only 4 among those new for Celebes also known in Java, viz.:—Therapon theraps C. V.; Drepane guttata C. V.; Scatophagus argus C. V.; and Caranx leptolepis K. v. H. Thus of the 108 species of fishes known in Celebes 64 are also found in Java.

Celebes most probably has a much greater abundance of fishes than Java. Notwithstanding this we know comparatively but a small number of species. I am of opinion that 108 expresses not yet the 8th part of the number of all the species of fishes actually living in Celebes and in its coastwaters. There is still to be found a rich treasure for science, not only in ascertaining the geographic dispersion of the species

already known, but also in discovering entirely unknown ones. This would appear to a certain degree from the comparative richness of the collection by Mr Zollinger, of which nearly half of the number of species are new in Ichthyology.

A few words only regarding the new genera formed by me; I have named them *Dipterygonotus*, *Apogonoides*, *Amblygaster* and *Pogonognathus*.

The two former belong to the family of the Sparoidei of S. Muller (Sparoidei & Maendoles. Cuv. Val.)

The *Dipterygonotus* is distinguished by his snout prolonged into a horizontal tube, by two diverging fins without scales, toothless gill covers, a small flat thorn at the operculum, scaled joles and absence of jaw bone—and erect teeth.

Apogonoides thus named by me from its resemblance in habitus to divers sorts of Apogon, has likewise two diverging dorsal fins and toothless gill covers, but no thorn at the operculum, the snout but little prolonged, small bristly jaw teeth and no erect and canine teeth.

The 3rd of the genera formed by me belongs to the *Clupeoidei*, and has a great affinity to the genus Clupea, from which it is chiefly distinguished by a flat round smooth belly, a character which I tried to express by the word Amblygaster. Amblygaster has a long compressed body, a round unspiked belly, 5 rayed gills, the eyes partly closed by a membrane, a naked head, no teeth.

With regard to the novelty of the genus belonging to the Balistini, called Pogonognathus, I am not quite certain. Remote from every centre of science, confined altogether to my own library and not in possession of some Ichtyographic works, I cannot positively decide, whether the *Aluterus cryptacautus* Cuv. (Renard II part p. 1. 2 f. 284) or the *Anacanthus barbatus*, Gray, illustrated in the Ind. Zool. Vol. I Jab. 84 f. 2, be identical or related to my Pogonognathus barbatus. The *Aluthera barbata*, mentioned by S. Muller in his abovementioned treatise, is there only enumerated without being described, so that I am likewise uncertain with regard to that species, whether it is the same with that discovered by me. I am inclined however to identify both of them since they were found at the same spot, and I know of no species of Aleuterus, with one or more cirri in the under jaw. It must be reserved to zoologists, who can command a greater share of literary aid than I on this unscientific spot of the earth, to remove the uncertainty on the point. Pogonognathus is nearly related to Aleuterus, but is distinguished from the latter by a large membranous cirrus on the chap, and a single dorsal fin formed merely by a bony fibre. The character-

istic marks of the *Pogonognathus* are a long compressed body covered with a short downy hair, a thin bony fibre instead of a dorsal fin, a thick membranous feeler at the chin, the bones of the pelvis concealed under the skin;—the pelvis of the males projecting.

I shall now enter into a short description of the new species. I have added the diagnosis of a kind of *Caranx* which I consider to be the *Caranx leptolepis* K. v. H., also that of the *East Indian Sailor* [Oostindisch vaarder] mentioned by Valentyn, called by me *Balistes melanopleura*.

Specierum Diagnoses.

PERCOIDEI.

Molocentrum leonoides Blkr.

Hol. linea fronto-dorsali convexiuscula, spinis opercularibus inaequalibus, praepopulari longa bisulcata, operculi limbum posteriorem multo superante; dentibus suborbitalibus 2 majoribus; lateribus verticis striis 6-7 divergentibus; spinis dorsi crassis, pinna caudali profunde biloba lobis rotundatis; colore corporis pinnarumque argentes. rubro, fuscis et maculis nullis.

D. 11—1 | 14, P. 1 | 12, V. 1 | 7, A. 3 | 10, C. 19 et lat. brev.

Habit Macassar Mare.

SPARCOIDEI.

DIPTERYGONOTUS Blkr.

Dentes maxillares, vomerini et palatini nulli. Ossa opercularia non dentata, operculo spina unica plana. Os in tubum horizontalem protectile. Pinnae dorsales duae distantes, non squamatae. Gerae squamatae. Membrana branchiostega radiis 7.

Dipterygonetus leucogrammicus Blkr.

Dipt. corpore elongato compresso, altitudine $5\frac{1}{2}$ in ejus longitudine, capite 5 in corporis longitudine. linea laterali recta; pinnas dorsales spinosam inter et radiosam spinis humilibus liberis 4; squamis parvis ciliatis; pinnis angulatis, caudali propende incisa; colore verticis et dorsi coeruleo, vittis longitudinalibus albis 3, laterum ventrisque argenteo, pinnarum flavescen-ti-hyalino.

B. 7, D. 10—4—1 | 9, P. 1 | 13, V. 1 | 5, A. 3 | 10, C. 17 et later. brev.

Hab. Macassar Mare.

Species habitu corporis *Cassio tile* Cuv. Val. affinis.

ARCGONOIDES Blkr.

Dentes maxillares setacei, palatini et vomerini nulli. Ossa opercularia non dentata, operculo spina nulla. Os parum protractile. Pinnae dorsi 2 distantes, non squamatae. Membrana branchiostega radiis 6.

Apogonoides mucussariensis Blkr.

Ap. corpore oblongo compresso altitudine $4\frac{1}{2}$ circiter in ejus longitudine, capite 4 in corporis longitudine, pinna caudali biloba

B. 6, D. 6—1 | 9, P. 11, V. 1 | 5, A. 2 | 11, C. 16

Hab. Macassar Mare

Species habitu *Apogon glaga* Blkr. affinis. Specimina mihi 7 minus bene conservata colores nec viscera monstrant.

SCOMBEROIDEI.

Caranx pseudo pterygius Blkr.

Car. pinnis dorsalibus 3. posteriore spuria; corpore elongato, altitudine 5 in ejus longitudine; capite 4 in longitudine corporis; linea fronto-dorsal

fere recta; dentibus minimis; maxilla inferiore superiore longiore; praeoperculo rectangulo rotundato; membranae oculi adiporae parte posteriore lata; line a laterali parte posteriore tantum armata, scutis latis p. m. 30, dentatis; pinna pectorali 5 in longitudine corporis; colore corporis supra coerulescente infra argenteo, pinnarum omnium flavescente, maculis nigris nullis.

D. 1 procumbens 8—1 | 32—1, P. 2 | 20, V. 1 | 5, A. 2—1 | 27, C. 18 et lat. brev.

Hab. Macassar. Mare.

Species *Caranx kiliche* C. V. et *Caranx kurra* C. V. affinis sed proportionibus numeroque radiorum distincta.

Caranx leptolepis K. v. H. Cuv. Val. Hist. Poiss. ix p. 48.

Car. pinnis dorsalibus 2, corpore elongato humili, altitudine $3\frac{1}{2}$ ad 4 in ejus longitudine; capite $4\frac{1}{2}$ in longitudine corporis, linea fronto-dorsali leviter convexa, dentibus exciso; praeoperculo rectangulo rotundato, linea laterali usque ad mediam pinnam dorsiradiorum flexuosa, in portica ejus parte tantum scutata, scutis parvis vix dentatis; thorace squamato; pinna pectorali 4 in longitudine corporis;—colore supra caerulescente infra argenteo, macula operculo-humerali nigra, pinnarum omnium flavescente.

D. 1 procumbens 8—1 | 26, P. 2 | 17, V. 1 | 5, A. 2—1 | 22, C. 17 et lat. brev.

Hab. Macassar. Mare.

MUGILOIDEI.

Atherina argyrotaeniata Blkr.

Ath. corpore elongato cylindrico, altitudine $6\frac{1}{2}$ in ejus longitudine, antice aequae crasso ac alto, capite $4\frac{1}{2}$ in longitudine corporis, fronte convexa; vertice plano; oculis $2\frac{1}{2}$ in capitis longitudine; ore declivo, praeoperculi margine postico exciso; nonnullis poris lacunosus ad latera capitis sub oculis et maxilla inferiore; squamis magnis; linea laterali paulum conspicua; marginibus pinnarum dorsalis secundae et analis superioribus excavatis; pinna dorsali secunda medio fere inter pinnae ventrales et analem; pinna pectorali $5\frac{1}{2}$ in longitudine corporis; colore corporis dorso viridescente, ventre ex roseo argenteo, lateribus vitta lata nitente argentea, supra limbo coeruleo; pinnis hyalinis; iride marginem superiorem versus macula nigra.

D. 6—1 | 9 vel. 1 | 10, P. 1 | 14, V. 1 | 5, A. 1 | 10, C. 15 et lat. brev.

Hab. Macassar. Mare.

Species *Atherina Forskaëli* Rüpp. affinis, sed forma capitis, numero radiorum analium etc distincta.

CLUPEOIDEI.

Clupea mocossariensis Blkr.

Clup. corpore elongato compresso, altitudine 7 in ejus longitudine, capite acuto $4\frac{1}{2}$ in corporis longitudine; ore antico edentulo; squamis magnis; linea laterali recta; ventre paulum carinato; pinna dorsali medio dorso posita; colore dorso caeruleo, lateribus et ventre argenteo, basi caudae stris 4 caeruleis longitudinalibus.

D. 2 | 9, P. 1 | 11, V. 1 | 7, A. 1 | 8, C. 18 et lat. brev.

Hab. Macassar. Mare.

Clupea argyrotaeniata Blkr.

Clup. corpore elongato compresso, altitudine 7 in ejus longitudine; capite acuto 5 in corporis longitudine; ore antico edentulo; squamis magnis; linea laterali inconspicua; ventre paulum carinato; pinna dorsali medio corpore posita; colore ex flavescente hyalino, vitta laterali nitente argentea lata.

D. 1 | 9, P. 1 | 15? V. 1 | 7, A. 1 | 12, vel 1 | 13, C. 18 et later. brev.

Hab. Macassar. Mare.

Clupea gibbosa Blkr.

Clup. corpore elongato compresso $4\frac{1}{2}$ in ejus longitudine, dorso medio in gibbam elevato; capite 5 in longitudine corporis; ore antico edentulo, ventre valde carinato serrato; pinnis, dorsali postice in anteriore corporis parte sita, subquadrata radio penultimo paulum longiore; ventralibus analique parvis; squamis mediocribus striatis; linea laterali conspicua; colore corporis dorso coeruleo, lateribus ventrefque flavescente argenteo, pinnis flavicante.

D. 2 | 15, P. 1 | 15, V. 1 | 7, A. 1 | 20, C. 19.

Hab. Macassar. Mare.

Amblygaster Blkr

Ossa intermaxillaria parva; maxillaria os maxima parte constituenta. corpus elongatum compressum, ventre obtuso rotundato non serrato. Dentes nulli. Caput supra nudum. Oculi membrana semitecti. Genae venosae. Membrana branchiostega radiis 5.

Amblygaster Clupeoides Blkr.

Ambly. corpore elongato paulum compresso, altitudine 5 in ejus longitudine; capite 5 fere in corporis longitudine, ore antico, oculo $3\frac{1}{2}$ in capitis longitudine; squamis magnis; pinnis acutis, dorsali triangulari, ventrali opposita, altitudine 8 $\frac{1}{2}$ in corporis longitudine; ventralibus brevibus, squamis elongatis ad carum bases; anali humili;—colore corporis dorso coeruleo, lateribus ventrefque flavescente argenteo, rostro nigro; pinnis flavescente, pectoralibus radiis anterioribus postice fuscis.

B. 5, D. 3 | 15, P. 1 | 16, V. 1 | 7, A. 1 | 16, vel 1 | 17, C. 17 et later. brev.

Hab. Macassar. Mare.

Engraulis Zollingeri Blkr.

Engr. corpore elongato compresso, altitudine $6\frac{1}{2}$ in ejus longitudine; capite $4\frac{1}{2}$ in longitudine corporis, rostro prominente; rictu amplissimo; ossibus maxillaribus serratis; ventre inter pinnis pectorales, et ventrales cultrato; linea laterali nulla; squamis deciduis; supra pinnae pectorales squame magna acuminata; pinnis, dorsali pinnae ventrales inter et analem posita, caudali utroque latere lobis 2 membranaceis; colore corporis viridi-hyalino, vitta longitudinali lata argentea, pinnarum flavescente.

D. 2 | 11, P. 1 | 12, V. 7, A. 17, C. 19.

Hab. Macassar. Mare.

Species *Engraulis heteroloba* Rüpp. affinis, sed positione pinnae dorsalis numeroque radiorum distincta.

BALISTINI.

Balistes melanopleura B.kr.

Bal. corpore subparallelo grammico compresso, basi caudae seriebus tribus aculcorum armata, serie superiore aculeis 2 vel 3. inferioribus aculeis 10—12; pinnis, caudali truncata, pectoralibus, dorsali analique rotundatis; linea laterali flexuosa; colore corporis supra profunde viridi, infra flavo, vittis 3 pectorali-frontalibus caeruleis, macula nigrescente magna supra anum; colore pinnarum rosaceo flavescente, dorsalis analisque basi violaceo, vittis 2 caeruleis longitudinalibus.

D. 3—3 | 23, P. 1 | 12, A. 2 | 21, C. 12.

Syn. Oostindischvaarder. Valentyu. Ind. Amb. iii p. 400 fig. 173.

Hab. Macassar. Mare.

Pogonognathus Blkr

Corpus elongatum valde compressum, villosiusculum. Pinnae dorsalis primae loco fi'um osseum tenue unicum. Ossa pelvis sub cute occulta. Maxilla inferior cirro carnoso unico magno. Dentes in singulis maxillis 4 acuti. Mas pelvi producta.

Pogonognathus barbatus Blkr

Pog. corpore elongato, maxime compresso, altitudine 12 in ejus longitudine, rostro maxime elongato; cirro intramaxillari dimidiam rostri longitu-

dinem aequante; linea laterali flexuosa; pinnis, caudali excepta, radiis simplicibus, dorsali anali humiliore, caudali longa acuta $3\frac{1}{2}$ in corporis totius longitudine; colore capite, corpore pinnisque pectoralibus fusco, dorsali analique rufo, caudali fusco nigro maculato.

D. 1 filiformis—49, P. 10, A. 57, C. 12.

Syn. *Aluthera barbata*, S. Mull. 1 cit.?

Hab. Macassar. Mare.

DR. P. BLEEKER

Soerabaya, 10th July, 1848.

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TOUR FROM SOURABAYA, THROUGH KEDIRI, BLITAR, ANTANG,
MALANG AND PASSURUAN, BACK TO SOURABAYA.

By JONATHAN RIGG, Esq., *Member of the Batavian
Society of Arts and Sciences.*

ON the 19th June, 1847, I started with Mr Lloyd, on a journey long contemplated, but for which no opportunity had before offered, viz., to the inland Residency of Kédiri, and still more sequestered district of Blitar. The first part of our route lay over the flat delta of Sourabaya to Mojokerto. On the way, we visited the sugar mill of Waru, now belonging to Mr Kruseman, and also the new establishment at Krian, belonging to parties in Holland, and principally under the control of the iron founders Paul van Vlessingen and Dudok van Heel. The Sugar Contract here was originally granted in Holland to General Nahuys, in consideration of services rendered in Java, but he soon found means to transfer his rights to others, who paid him a round sum to leave the matter in their hands; the above mentioned founders interesting themselves for the sake of supplying the machinery. Of this we found a large quantity already brought here, and being fitted together. The establishment is to be worked with vacuum pans, defecators, &c., but these will hardly be ready before the close of the year, meantime they have put up the usual open pans and had commenced to grind off the year's crop, the day previous to our arrival. There is another small Chinaman's

mill close to the Posthouse of Krian, and a few pails further on we passed the sugar works of Balung Bendo. At intervals along the road, we observed the native population busy preparing the land for next year's crop of canes, on the ground from which they had just taken a crop of paddy. A good deal of paddy still remains to be cut, which however looks stunted and puny; indeed the crop generally in Sourabaya has been only indifferent, as has been the case for some years back, hence the high price of the grain; we were told even as much as *f* 10 copper per picul had been paid at the moment of greatest scarcity before any of the new crop could be availed of. The chief attention and energy of the government authorities are directed towards the cultivation of sugar cane, and besides this, the population has to contribute a large daily quantum of labourers for conducting the military and other public works at Sourabaya, so that the former easy and regular routine of the rice cultivation is no longer observed; it may also be matter of question whether the alternate crop of sugar cane from the rice lands, is not detrimental to the success of the latter, if not by actually impoverishing the ground, very probably by leading to a slovenly and imperfect preparation of the land for rice, as it must be remembered, that all the terraces and embankments of the sawahs are destroyed for the canes and must be reconstructed for rice, besides the roots of the cane have to be removed. One effect is very evident; whereas Sourabaya formerly exported, yearly, many thousand koyans of rice at a rate of *f* 80 to *f* 90, the trade at that port in the grain is now reversed, and a large quantity is imported for consumption, principally from Bali, which in the early part of the year finds a ready sale at *f* 160 to *f* 170 per 30 piculs or one koyan. Without this supply from abroad, there would have been a famine in the land in the early part of this year, the population from the surrounding districts crowding into Sourabaya to purchase the grain at *f* 7 to *f* 8 copper per picul, whilst fine table rice was selling at *f* 9 to *f* 10 copper. Two cargoes were also brought from Arrakan, amounting together to 11,000 piculs; this rice not being known here, could only fetch *f* 100 per koyan, but as the grain suited the taste of the natives, another time it would be bought with greater confidence.

At Balung Bendo is a dam across a small stream for the purpose of raising the water for the wheel of the mill. This stream soon increases in size, and by the time you reach

the Post station at Wono Sari, at the 26th paul, is a respectable river; it decreases towards Balung Bendo, in consequence of being diverted for cultivation; this river is now followed, along its right bank, to its source in the Porong branch of the Kediri river, at the sluice of Mèlirip. At about the 29th paul is passed Wiongo, the abode of the Tumunggeng Dawuon, or chief of the water works, expressly appointed by government to superintend and direct the distribution of water, but whose most important task has ceased since the construction of the sluice of Mèlirip, in place of the rude dam which formerly existed. At the distance of about $1\frac{1}{2}$ paul from Mojokerto we stopped to see this fine piece of work, which has just been completed; it is now in use, and through it passes all the water for the supply of the Sourabaya branch of the Kediri river. The sluice is constructed about $\frac{1}{4}$ paul lower down the river than the former rude opening. A solid sound part of the bank was selected, and a new cut of a couple of hundred yards throws the water into the old course. The sluice is double, having two passages for water, each about 20 feet wide, the one left open for the water of the river to flow freely through, the other fitted with double doors and forming a lock between, in order to admit the passage of boats in all states of the river, with ease. Both the masonry and lock works are simple, solid and well constructed. The whole mass rests upon a compact flooring of large teak piles and timber, where every precaution has been taken to prevent undermining. The masonry consists of hewn stone and bricks brought out from Europe, and set in cement. The doors of the lock are massive and heavy, but yet worked easily with the assistance of some small arched ducts constructed in the mass of the masonry, and by manœuvring the doors of which by means of winches, the water is so admitted or withdrawn from the lock, as to facilitate the movement of the heavy apparatus in whichever direction it is wished. This is more particularly the case with the door most distant from the Porong river, which is a triangle of unequal sides, the shorter side closing the lock, the longer travelling in a semi-circular room in the masonry, and at the point of junction of the two doors, at the angle, turning on hinges and grooves. By means of archways below the surface, the water can be applied or withdrawn from the superficies of the longer side, and the whole then moves, that is, opens or shuts, by the force of hydrostatic pressure. The work is one of science, skill and public utility, and does honor to the Govern-

ment that has carried it into effect. It took about four years constructing, but is well worth the trouble and expense which it may have cost. The population of the neighbouring country contributed their labour to the undertaking, and to them it must prove now a great relief, as formerly about 400 men daily were required to keep in order and watch the rude and ever defective dam work. The sluice was planned by Mr H. A. Tromp, Assistant Resident of Mojokerto, and carried into effect under his immediate superintendence. This gentleman was the principal government civil engineer at Sourabaya, and was appointed to the charge of the district, in order that he might the better be able to execute the undertaking. After all the piling and foundation work had been laid, which had necessarily occupied some considerable time, an interest in the work was excited amongst the population, by a solemn consecration, accompanied by a great festival, at which the Resident Pietermaat presided, and who, on this occasion, officiated as mason in laying the principal block of hewn stone, at the bottom of the sluice, where the triangular door works. The principal officers of government of the Residency of Sourabaya, both European and native, attended, as well as an immense concourse of villagers. After they had been addressed by the Resident and encouraged to freely give their assistance in prosecuting the work, a party of priests, headed by a hoary elder, were requested to offer up a prayer in the Mahomedan fashion, and invoke a blessing on the enterprise. This is described by those who were present, as having been very impressive. At the bottom of the pit or trough, where the foundation was laid, might be seen the authorities and the priests, whilst the crowd of spectators thronged the surrounding banks of excavated earth. As soon as the aged priest was seen to raise his face and arms to heaven, the hum and din of the multitude was hushed, and only broken at intervals, when, as one voice, was responded from every mouth the "Amín!" "Amín!" of the prayers. In the stone which the Resident laid, was enclosed a soldered box containing a parchment document giving an account of the undertaking, and which the principal persons of the company present were invited to sign. Along with this, were also deposited, a copy of the *Java Courant* of latest date, and several coins. This ceremony took place on the 7th October, 1843, and just three years afterwards, the work was completed, and thrown open with further solemn ceremony and festivities. On the afternoon

of the 16th October, 1846, thousands of workmen were employed closing up the old dam, the example having been set by the European ladies throwing into the aperture little pellets of earth, which were handed them on silver salvers. During the following night this service was performed, and on the morning of the 17th, the slight earthen mound which still kept out the water from the new works was removed, and the river bounded through the sluice into its newly formed course, to supply as before the low flats of Sourabaya, but henceforth to be guided and regulated as occasion might require. Messrs Pietermaat and Tromp were again the principal persons who presided at the ceremonies, the work having been commenced and completed during their administration of this part of the country. The construction of the sluice had always to be stopped during the rainy seasons, when the pit was allowed to get water logged, but on the return of dry weather the cement and work generally were always found in order; the water of occasional showers or filterings through the bank from the river was thrown out by means of Archimedes pumps. Only a very slight flaw in the masonry can now be detected, viz., in the party buttress which separates the lock from the free and open water course; the lower end of this seems to overhang a trifle, and a slight separation of two coping stones, which have, however, been re-cemented, betrays a slight inequality of settling, which appears now to have stopped. The apertures above the town of Mojokerto, from which the Sourabaya branch also received supplies of water, have now been closed, so that both water and boats all pass through the sluice of Melirip, which is calculated to give passage to a sufficient volume. In the lock we saw a bambu pushed into the water to a depth of at least 10 feet, and the open course was said to be still somewhat deeper. It must be remembered that this was the dry monsoon and the Kediri river low. The open part of the sluice is fitted with double and opposite grooves, into which beams of six or eight inches broad can be lowered, so as to partially check, or if necessary, entirely dam out the water of the river. Through this sluice must thus pass all the boats moving up or down the river, laden with produce or merchandize. The Chinamen, ever awake to forming a toll, or turning the penny, have already been suggesting to the authorities, the facility and certainty with which a toll might be levied at this spot, but to the honor of the Resident, he is not to be tempted, and has set his face against

any measure of the kind, considering it, very properly, unjust to tax the natives for making use of a work, to which they have contributed so much unpaid labour. May his successors remain of the same mind!

At Mojokerto we stayed all night at the sugar mill of Santanan. In the evening we strolled out to see the place. The Assistant Resident and a few other Europeans have their houses along the Kediri river. A little off the river and behind the Assistant Resident's is the Alun Alun, a neat and clean square, with the Regent's dwelling on one side and the mosque opposite; a couple of recently constructed portals ornament this enclosure, one leading to the mosque, the other placed over the road to Kediri. They are built of brick and plastered, look very well, but being only flimsily constructed, will not last long; the key of the arch of one, is already cracked. Mojokerto is a populous native town, but, except the dwellings of the Chinese, is composed of wretched thatched hovels. Opposite the house of the Assistant Resident, we found them busy constructing a new bridge over the Kediri river. It is entirely of timber, (teak), parallel rows of piles being driven into the bed at intervals; it is about half finished.

Day-break of the 20th June found us rolling along the road towards Kediri. The first 5 or 6 pauls are over a rich flat plain of rice and sugar cane cultivation, the country then undulates a little, and as you proceed becomes covered with jungle and wilderness. Just past the 42nd paul we turned off the main-road towards the south, and soon stopped on the banks of the ancient tank of Majapahit close to the village of Trowulan. Having been here before, in July 1844, I shall pass over such sights as I then described, and proceed to notice such places as were not then visited. Being early in the cool of the morning, we were prepared to enjoy a ramble. From the north east corner of the tank, proceeding a few hundred yards, we were taken to where some statuary and the traces of a temple are found in the jungle. On a small mound, or what may be the rubbish of ruins, is seen, set on end, a rude and much decayed statue in stone called "Ménak Jinggo;" it is the figure of a warder or door-keeper, with a dagger in his hand; the nose and adjoining parts of the face have been knocked off, feathers are represented in the stone as sticking out from behind the body, the hair is combed back and hangs in curls. Near it, but on a little higher situation, is a figure called "Dewi Waito," precisely the same as the mermaid looking

creature sketched in Raffle's Java, on the plate, "Subjects in Stone" facing page 44 of vol, 2nd. From the waist upwards it represents a handsome young woman with prominent breasts, the lower part is chiselled in scales, and instead of legs, the body turns at right angles backwards and ends partly in a tail of scales with a tufted terminal fin, both below and above which straight lines of feathers are seen, as if it had been wished to be shown that the possessor had both the faculty of swimming and flying. *Waitala* in Clough's Dictionary is given as "morning, day-break" and may have become *Waito* in Javanese by the elision of the final *la* and turning the *a* into *o*: with *Dewi* prefixed, it would then mean the goddess of the Dawn. The figure does not appear to have been a statue in a temple, but an ornamental stone let into some wall or building. Examining round the mound on which it stands, you may, amongst the rank vegetation, perceive that it is on an elevation that has originally been built up with hewn stone, and perhaps both figures are the remnants of some building which formerly stood here. *Ménak Jinggo* may have been the guardian or door-keeper to the temple, and *Dewi Waito* an ornament typical of the Dawn, which rises young and beautiful but soon passes away, as indicated by having the power both of flight and swimming. Learning from our attendants that a gopura, or gateway, was to be seen at a short distance in the forest, we made them conduct us thither: the general direction lay still south east from the tank, and our way was over cleared ground that had lately been cultivated, and round some patches of sawah formed in the hollow, along the course of a rivulet called the *Kali Pélém*, the water of which had formerly been made available for feeding the tank. We here had a fine view of the hills to the south of us, which are those which run out west from the *Arjuno*, and separate *Mojokerto* from *Malang*. To the part nearest to the *Arjuno*, the natives gave the name of "*Indora Wati*," and to some jagged and fantastic peaks a little more to the westward, "*Gunung Sëmar*." At a distance, natives can seldom give you the name of this range, and at *Antang*, at its western extremity, they apply the name of *Indra Wati*, to a smallish hill above the *Pasangrahan*. *Majapahit* is situated 4 or 5 miles from the foot of the hills, and just on the neck of land which is narrowest between them and the *Kediri* river. After a while, we crossed the *Kali Pélém*, a small stream of clear water and whose name implies "*Manggo River*," and which now

creeps through a jungle of wilderness, though in the proud days of Majapahit it may have meandered through groves of fruit trees. Ascending a short way on its southern bank, we reached a ridge running towards the east, and following this, along a broad pathway cut through the jungle and forest, amongst the trees of which the Lutung monkeys were disporting, after a walk of about 20 minutes from the tank, we reached the object of our search—the “Gopuro Bajang Ratu” or gateway of disappointment of the Prince, or more literally “gateway of the stunted principedom,” *Bajang* meaning stunted. *Gopura* means (Clough page 183, 2 vol.) a door, a town gate, a gate in general, and is applied to several similar edifices found among the ruins of this former capital of Java. Another I visited in 1844 near the main-road, and a third is somewhere in the jungle south of the tank, but which we did not see. The two latter are figured in Raffles’ work, but not the one we are now visiting. It stands in the midst of the forest, but the underwood has been cleared away from immediately around it; the bough of a large tree rests against the upper part of the edifice. It is a doorway built of the usual large red bricks without cement, and rising up pyramidally to a height of about 60 feet, where it terminates in a pinnacle that is still very perfect. The upper part of the building is in a sounder state of preservation than the lower, where at the north east angle a quantity of the bricks have mouldered and fallen away, so that it has been found necessary to support the mass by a frame work of timber, fitted closely into the aperture of the doorway, without which the whole would be in imminent danger of tumbling down. The aperture of this doorway is not more than 4 or 5 feet broad, but, to our ideas, out of proportion lofty. The threshold is elevated some 4 or 5 feet from the ground, and is on either side approached by a flight of steps of trachyte stone; so also the lintel overhead is not an arch, but a series of inverted steps, also of stone, and the counterpart of the steps below. The aperture has originally been fitted with a double or folding door, as on either side may still be seen the grooves cut into the threshold, in which the pivots of the door have revolved, a plan that appears to have been adopted in all the old buildings in Java. Much care has been employed in the construction of the edifice, in disposing the materials in tasteful cornices, with projecting and receding angles. The sculptured figures of human beings may still be traced near one side of the doorway, as well as other artistic orna-

ments on other parts. The usual goggle eyed gorgon's heads are seen, in a very perfect state, over each entrance of the doorway, which respectively face north and south. On the south side of this building may still be traced, amongst the underwood, the foundations of walls, as it were of enclosures or courts, but whether they conducted to a temple or to a great man's dwelling, it is now impossible to say. Such an object, however appears far more likely, than that this, or other similar gopuras, formed the chief entrances into the ancient town of Majapahit, as they could only admit the passage of men on foot, and that not encumbered with burdens. They probably served for state entrances, on occasions of ceremony, to the abodes of Princes.

The tradition of the country favors this opinion, as it is related that at the taking of Majapahit by the Mahomedan rebels, this gateway had just been completed as an approach to a palace that was about to be built for the crown prince Raden Gugur. Before the crown prince fled for ever from the destruction which was ravaging the capital of his forefathers, and so cutting off from him the prospect of the succession to the crown, he threw himself down in this gateway, and pronounced the following malediction on the spot—"Accursed be the spot, on which thy foundation rests, and let the feet which tread on this ground be as wandering and fugitive as mine! Thy name shall be Bajang Ratu (disappointment of the Prince) and the prospects of might and greatness of every one who shall vouchsafe thee a glance, shall be thwarted, the same as mine. Damned art thou! and every one who approaches thee, shall be as unfortunate as I am."—*Tijdschrift voor Néerland's Indie* 1st year 2 vol. p. 285. A very pretty little piece of elocution for a disappointed prince, and about as harmless a demonstration as he could well make in defence of the regal rights, which were just slipping from him. At least so any one would think but a Javanese. They however, are of a different opinion, and believe that the Raden's malediction was valid and remains still virulent. No Javanese, having any pretensions or ambition to rise to rank or station, would like to run the risk of exposing himself to its effect, as they are said to quote many instances of its still existing power. Raffles somewhere relates, that when he visited Majapahit in 1815, he was warned that he would soon lose the government, and Java reverted to the Dutch in the course of the next year; the superstition no doubt was confirmed by the coincidence, tho' it does not appear that he visited this

Gopura. The Dutch Residents van de Poce and Beziers are also reported to have been removed from their situations soon after visiting this ill-omened spot. We returned the same way through the forest, but instead of leaving the ridge to cross the Kali Pélém, we kept straight on, and the elevation dying away by degrees, after turning to the northward, we came out at the south end of the tank. In every direction in which we went, we constantly were meeting loose bricks, and what appeared to be the foundations of brick walls, proving the advanced and settled state of the community which was here congregated together; it must also be remembered that the place has been long and frequently plundered of the ready-made building materials. South from the tank we saw no ruins of buildings, all is wilderness, except a swampy patch of sawah. The large teak timber, which grew here in Raffles' time has disappeared, and only saplings are now seen. Tracking paths into the forest, towards the south were pointed out, as the lines along which timber of any size had to be conveyed from about the foot of the hills.

A ramble of upwards of a couple of hours, in the fresh of the morning, prepared us for enjoying the supply of provisions which we had taken the precaution to bring with us, so seating ourselves on the roots of a wide spreading tree which stands on the very brink of the tank, we lingered for half an hour gazing upon what had once been one of the chief ornaments of Majapahit, a noble tank of limpid water. And what is it now?—a filthy swamp, choked with weeds, in which the sluggish buffalo is wallowing, a few ducks rejoicing in a puddle, or a group of children baling out a hollow in order to catch a few small minnows! Sic transit gloria mundi!

Continuing our route, the way still ran through a country of wilderness, where however we passed along and through a fine young plantation of teak trees. The trees are planted in regular quincunx order and are already as thick as a man's thigh; they however stand close and will have to be thinned out as they get bigger. The regular planting makes the trees draw each other up into straight stems, which will no doubt in time afford fine timber if allowed to stand to a sufficient age, and their number be so reduced as to allow those that remain sufficient room to grow, with a free circulation of air in order to develop a healthy fibre. At the 45th paul and thus only three from Majapahit, we reached the large and populous village of Ngémplok, with

a stream of water running past it from the hills to the southward. The name of this place in official language is Mojo Agung, being the chief place of the district of the same name, and abode of the widono.

On leaving Mojo Agung, you pass through a fine flat of well watered sawahs, but after proceeding westward for a couple of pauls, you again find yourself surrounded by forest and thickly tangled jungle, where the wild hogs bounded into the thickets at our approach, and the black lutungs, in the trees above, grunted an alarm and then gazed at us as we passed. The ground is level and rich, and only requires population to increase and spread in order to afford a rich homestead for rising generations. The rise is gradual towards the foot of the Indora Wati hills, and at Mojo Agung, the breadth of the plain from the hills to the Kediri river is about 20 pauls, and the further you go west, the more these two lines diverge from each other, the land being everywhere level and little elevated above the sea, say not more than 100 feet. To give an idea of what population these rich but waste lands could support, it may be interesting to quote from the population tables lately published in the *Tijdschrift voor Neerland's Indie* (9th year 2nd No.) from which will be seen what a dense mass of human beings can find subsistence on these alluvial valleys of the Kediri river. The returns are for 1845, and as follows

		Square Pauls	hearing	Souls	
Kota Sourabaya	contains	50	"	82,203	or 1,644 souls per sq. paul
Jaba Kota....	"	180	"	50,379	or 280 " "
Janggolo No. 1	"	21	"	41,621	or 1,982 " "
" " 2	"	25	"	41,111	or 1,644 " "
" " 3	"	25	"	39,466	or 1,578 " "
" " 4	"	19	"	40,560	or 2,135 " "
Rawah Pulo 1	"	25	"	35,106	or 1,404 " "
" 2	"	16	"	21,482	or 1,343 " "
		131	"	219,346	or 1,674 souls per sq. paul
Modjo Kerto..	"	240	"	36,888	or 154 souls per sq. paul
Modjo Sarie..	"	220	"	21,511	or 98 " "
Modjo Agung	"	180	"	16,817	or 93 " "
Modjo Redjo..	"	160	"	12,995	or 81 " "
		800	"	88,211	or 110 " "

The foregoing are all Javanese, exclusive of Europeans, Chinese, Arabs, and other Asiatics, who are, however, mostly crowded into the town of Sourabaya and collectively amount

to about 6,500 souls. The tambaks and swamp which form the extensive fish ponds, will partly account for the comparatively small average per square paul in the Kotta Sourabaya and adjoining Jaba Kata, and this latter again has only a scanty population on the dry, poor limestone ridges, which commence at Gunung Sarie. The Janggalos and Rawah Pulos comprise the rich delta of the Kediri river, where all the land is entirely occupied either for homesteads or cultivation. The four Modjos join on to the Rawah Pulos, but are on the opposite side of the Porong branch, and run much further into the interior between the Arjuno and Indorowati hills on the one side, and the main branch of the Kediri river on the other, and from the nature of their position, and soil, could no doubt support an equally dense population, having indeed formerly formed the seat of the ancient capital of Majapahit.

As you approach the boundary of Mojo Redjo, near the 53d paul, the forest and wilderness again give way to cultivation, and paddy and sugar cane again alternate with each other. Mojo Redjo, at the 54th paul, is again the official name for the village of Jonbang, close to which is the last and most distant sugar mill, with a government contract, in this Residency. The flat plain now expands, and the road leads away towards the centre of it, deserting the neighbourhood of the Indora Wati range. Fresh mountains, which are invisible from Sourabaya, come into view; towards Malang the huge *Klut*, and to the south of it the more pointed *Kawi*, whilst the range of the Gunung *Wilis* shuts in the west side of the extensive valley which forms the residency of Kediri. Rich sawahs, but with the paddy still green upon them, extended on either side of the road, and it was here, at about the 61st paul, that we began to feel the influence of the southerly breeze, which at this time of the year blows from the south sea, and prevails over all other winds, being in fact the south east monsoon, turned due north between the lofty mountains on either hand, as there is only a low ridge of limestone rock running along the southern sea shore and forming the head of the valley of Kediri, in the district of Rowo.

A little past the 63rd paul we suddenly came upon the banks of the Kediri river, which we had not seen since leaving Mojokerto, and which is here a good broad stream rolling a copious current of water. We followed up the right bank of the river, and now our course lay a trifle to the west of south all the way to the town of Kediri. About

the middle of the day we reached the abode of Mr Martherus at Bandar Jéjér, and did not proceed further on our route till the next morning. Bandar Jéjér is a small estate, and consists of waste lands leased from the government some 15 years ago. There is a dirty little sugar establishment, where the cane is ground in cattle mills of the most primitive construction, presenting a striking contrast with the fine machinery and buildings which now-a-days are everywhere so common in Java. In the afternoon we were supplied with horses to visit the private estate of Mr Johar, about 6 or 7 pauls off the road and towards the foot of the Klut. Here we found one of the neatest and clearest private sugar works that exists on Java. The place yielded upwards of 4,000 piculs last year, and there is every prospect of increase this. We found the owner on his property who politely showed us about the place. This estate also consists of waste lands which, about 15 years ago, were leased out by government, and now has a population of about 2,000 souls. The land is good and well watered, but population being scanty, makes agricultural operations expensive. The name of the place where the mill stands is Gudu, but the Estate generally is called Sukawati. Not far from this neighbourhood is another small estate of leased lands belonging to Mr Coolen, who has a population of 1,400 souls, and who has devoted his attention to other matters than realizing a fortune by agricultural speculations. He is said to have converted his people to christianity, and lives with them almost in the native fashion. How sincere these people may be in their conversion, it is difficult to learn, as the matter is talked of rather in ridicule, and Coolen himself was a few years ago placed under the curatorship of the court of justice.

We had a pleasant ride back to Bandar Jéjér by moonlight, and ere the next day dawned we were off to join our carriage at the post station at the boundary between the Residencies of Sourabaya and Kediri; this is found just beyond the 65th paul. The horses are kept about a quarter of a paul off the main road, at a ferry which crosses the Kediri river to Kerto Sono, and on the opposite bank is seen the dwelling of the controleur.

The change of residency was soon perceptible in the less kept up state of the roads and fences. Coffee is here the great object of government cultivation, and for convenience is planted in regular gardens, shaded with dadap, on either side of the road, not extending inwards on either side very

deep. Though the superintendence is thus made easy the gardens are not always over clean. As an excuse for this is adduced the scanty population of the country. The Regency of Kediri, in which we now were, in the district of Papar, on a superficies of 600 square pauls, can only boast of a population of 50,228, or scarcely 84 souls to the square paul.

At the first post station which we reached, we became fully aware of having got amongst a differently managed people from those we had passed amongst yesterday. No post master or assistants were to be found, as these worthies had strolled off to other occupations. They have, however, providently placed the means of call within reach of the impatient traveller, and to this our coachman seemed quite accustomed, so descending from his seat, he straightway went to a huge hollow tongtong suspended in a corner, and belaboured the same at intervals, till the startled horsekeepers came running to their duty. A detention of an hour had nigh well exhausted our patience, a plentiful stock of which all travellers in Java ought always to be provided with. Once on the road, however, we spanked along at a splendid rate; our cattle were none of the best trained, but being strong fiery nags out of the dessas, and six to the team, our canny coachy let them have their own fun, as long as they kept anything like the middle of the road. Just before reaching the post house Grompol, near the 79th paul, we passed out of the district Papar into that of Kota, and before 8 o'clock reached the kota or town itself of Kediri, and were kindly invited by Dr Heyne to take up our quarters with him.

The town of Kediri is 84 pauls from Sourabaya, and is situated on the right or east bank of the river of the same name, which here runs due north, with a broad deep steady stream, sunk about 20 feet below the surface of the adjoining country; no rocks or even large stones are exposed by the bed of the river. The ground is everywhere an alluvium of volcanic detrio, in places rather gravelly in the lower strata, but here the stones rarely exceed the size of a man's fist, and are remarkable for their light specific gravity, being a light pumaceous lava stone. All the Javanese and Chinese live in the town on the right bank of the river, as well as a few Europeans at the north end of it, opposite to which, across the river, is the Resident's house and the dwellings of the other government officials, as well as the warehouses, so that they are entirely by themselves and out of the reach of any conflagration that might devastate the town. The communi-

cation between the two sides is by means of a long and substantially built bridge of teak timber, resting on parallel rows of piles, driven in, at intervals, length-ways with the river. This is said to be one of the longest bridges in Java, and perhaps with reason; stepping it from end to end as far as the planking extended I found 212 paces, and as 10 of my paces give 28 feet, the bridge must be very nearly 600 feet long. Where it abuts on the west bank, and just on the south side of the road, stands the fort, the guns of which command the bridge and the town on the opposite side of the river. The fort is a square enclosure of masonry, with loopholes and a circular bastion at each angle, on each of which is mounted an 8-pounder gun, traversing on a slide. The gate of the fort is to the westward and on the opposite side from the river, coming out upon the high road, which runs parallel with the river, and passing the Residency and other houses of Europeans is continued out towards the north, and is the high road to Madion and Ngawi. In the centre of the fort is a neat clean court, surrounded by barracks, store-rooms, and the quarters of the commandant or other officers. The dates of 1834 and 1835 over the inner and outer arch of the doorway show the period of its construction. The commandant is a 2nd lieutenant, and he has under his orders a garrison of 35 men, of whom only 10 are Europeans. We here observed a rather primitive method of measuring time, and of which the sentry on guard has charge. This consists of a bucket half full of water, on the surface of which is placed a cocoanut shell with only a small segment cut off. The bottom of this shell is pierced with a small hole, through which the water runs up, and in a certain determined time, filling to the brim, sinks the shell to the bottom, where it is the sentry's duty to empty it out and set it afresh, his own relief depending upon his taking proper care of the instrument. The Residency is distant only a musket shot from the fort, and could thus be easily defended in case of an emeute.

Our friend the Doctor's house is the most agreeably situated of any in Kediri, being at the north end of the native town, and a rising ground above the road, with a fine view of the river passing below, of the bridge, fort, and back premises of the Residency, over the trees of which, a line drawn due west passes over the south end of the Gunung Kolotok, and then cuts the northern peak of the Wilis, which towers beyond to the height of 8,233 feet.

(To be Continued)

A TRANSLATION OF THE KEDDAH ANNALS TERMED
MARONG MAHAWANGSA.*

By Lieut-Col. JAMES LOW, C. M. R. A. S. & M. A. S. B.

THE Prince of Rúm, it is further narrated, who was clinging to a plank, was tossed about by the winds and waves without a morsel of food to eat, or water to drink. His body became emaciated, and was covered with barnacles and shell-fish—till at length, feeble and exhausted, he was cast by the surf into the crevice of a rock on the shore of the island Langkapuri. He had nearly lost his voice, through the perils he had endured. Now it happened, one day, that Girdá had left the Island in search of food, and the Princess of China accompanied by her foster-mother, and attendant, had gone to the sea beach to search for crabs and shell-fish. Presently her Ladyship heard some one groaning—and told her attendants to go and see who it could be. They accordingly went on the search, and soon met with a man whose features they did not recognize—nor indeed could they see them, since he was glistening with the shell-fish which had fastened on his person from his feet to his eyes. The foster-mother reported this to the Princess, observing that she was afraid to go near to the creature, not knowing whether it might not turn to be a demon, or a Jin, instead of a man or human being. The Princess smiled at this fearful narrative—but bid the narrator return to the spot, and correctly ascertain who, or what the creature was. She did as directed—and the Prince of Rúm answered her questions by acquainting her with his name, and late disasters, and with the object of his voyage to China. She could not help laughing when she again reported the result of her enquiries. The Princess ordered her instantly to go to the Prince and remove him to a place of concealment—so that Girdá might not find, kill and eat him, adding “have a care and give the Prince only gruel at first for his food—and let him be washed free from all the barnacles and shell-fish with gruel also, lest he should die.”

So the Prince was *carried*, agreeably to the desire of the Princess, by her two attendants who concealed him in a cave, where there was plenty of small stones to cover its entrance. They performed for him the requisite ablutions, as he was too weak himself—and scraped off the shell-fish from his person. The Princess sent also by the hands of her attendants a dress for the Prince.

* Continued from last number.

All this having been finished, they shut up the entrance to the cave, as it was the time when Girdá was accustomed to return home. So whenever he was from home the door of the cave was opened and these two attendants served the Prince diligently—by which attentions he very soon regained his former strength and beauty, only he had no wardrobe. The attendants therefore reported the favorable change to their mistress, expressed their belief that he indeed was the Prince of Rúm, as his actions and speech bespoke royalty, and were superior to those of the Princes of China and other countries, but, said they, it is distressing to see him destitute of befitting dress ‘never mind, said her Highness, I will speak to Girdá.’ She then addressed Girdá in these terms. ‘O my Bird, Lord Girdá, why has your lordship brought us to this place to suffer hardships, and privations. It is true that you supply us with food, but behold our wardrobe—I pray your lordship to go and bring our clothes from China.’

Girdá laughing at this request, replied in a voice of thunder from the clouds ‘My grand child! I have no wish to distress you three, I am only waiting until I shall have performed the promise which I have made to the holy Prophet Súlmán. It will not be long before your grand-father restores his grand-child to her mother in China. I pray you to tell me where your wardrobe lies that I may bring it.’ The Princess having informed him where it was, Girdá sped away through the air, saying to the Princess that he would be happy to serve her even were the task much more difficult. When he reached China he rested for a while on a mountain, and then directing his flight to the palace of the King, he darkened the air, and sent before him a storm of rain, wind, thunder and lightening—and a whirlwind which is called *tufan jin*—so that the ears of all were stunned.

It happened that at this moment His Majesty was seated in his splendid audience hall, surrounded by all his officers of state, for the purpose of hearing a letter read which Ambassadors had just brought from the Rajá of Rúm to inquire what had become of the Prince—but the storm raged so furiously that no one could be heard, and all the assembly dispersed to take care of themselves. The hubbub was great, and the seventeen apartments of that royal hall rocked to and fro—and all the inhabitants of the Palace, being confounded by the horrid din and tumult, escaped from it, dispersing in all directions and leaving it empty.

Girdá seeing his way cleared, descended amidst the uproar, and breaking open a side of the palace wall, took out the

chest of the Princess—which he knew by the description she had given of it, namely, that it was in a room, the walls of which were encased in mirrors, that it was large, that the joinings were formed of ivory, and that it was adorned with yákub or precious stones. Girdá delivered the chest safely to the Princess, who joyfully opened it with the key which she had on her person, and perceived that her wardrobe was perfect. So Girdá left her and betook himself for rest to the highest precipice of the Island. But when he had descended, and gone in search of provisions, the Princess took out of the chest a golden suit of clothes called pitaráná such as Rájás wear, and sent them along with provisions to the Prince, who was very grateful for the gift. After six or seven days and when Girdá was absent in search of food, the Rúmí Prince was brought before the Princess by her attendants. She no sooner saw him than she hid her blushing cheeks; while the heart of the Rájá was smitten, and lay prostrate before her. Thus they both became enamoured of each other.

When Girdá retired at night to rest, the two lovers met in presence of the lady's attendants, embraced and wept. In this manner some time passed away; but all these things were unknown to Girdá—who at last grew impatient and signified to the Princess his intention of paying his respects to the Prophet of God, Sūlman. On reaching the presence, the Prophet inquired what news he had brought, and if his scheme of frustrating the marriage had succeeded or not. Girdá answered that it had, describing all his proceedings. Sulman then asked if a son of the Sultan of Rúm had been seen sailing towards China to get married. Yes, rejoined Girdá—and here he related the fate of the Prince and the destruction of his fleet, not even excepting Máhávángsá's vessel, by his own power alone. Sulman when he heard these vaunting expressions smiled and laughed, and turning towards his courtiers they also followed his example; for they saw the Girdá had no reliance on the power of God. 'Very well, said his Majesty to Girdá, if the Prince shall be found to be alive what will you say? or should he be found to have met the Princess of China?' On this Girdá, making obeisance, assured his Majesty the Prophet that he would still in either of such events adhere to the agreement he had made with him as before herein described—for how can I, said he, dare to swerve from a promise made to the Prophet of God? His Majesty now addressed the Jin King whose name is *Hurmanshah*. 'Let my *Master* take an hundred of his man-

tri or ministers, and bring now before me the Prince of Rúm and the Princess of China, with her attendants.' The demon king did as required. When he had made known his mission to the four prisoners at Lánkápuri, they speedily put all their effects into the chest, and then entering it themselves they locked the lid *inside* and were thus before long carried by Hurmanshah and his mantris into the presence of Suliman—where Girdá also was waiting to see the result. His Majesty then called upon the four in the chest to come forth. So they stood before the Prophet and made obeisance. 'Tell me O Girda, said the Prophet, who these persons are?' But Girdá spoke not a word, for he was now under the influence of unwonted terror, his body was convulsed, and his joints trembled, while shame contributed to complete his defeat—since it was witnessed by mighty Rájás and crowned potentates.

The Prophet now spoke in the following terms:—'O ye Rájás and Mántris my subjects, who are men of family and repute, it is proper that we should know by the God who made us and all created beings,—that there are four uncertainties in the world. *First*—Created beings cannot be sure of their daily or nightly food, or whether it shall be got in a small or in a large quantity—for such depends upon the appointed time. *Secondly*—Calamity and death cannot certainly be foreseen by any created being. Be not certain of your continuance in this world—for evil and death, and the place where death shall overtake us, are appointed to all. *The third*.—Wherever amongst the multitudes of the human race, framed by the hand of God, a pair has been joined (in marriage) they can only be separated by God at his appointed time. *Fourthly*.—To look for that to-morrow, which should or was to happen to-day is useless, for the time appointed by God has passed.' The Rájás and Mántries humbly thanked the Prophet for his instruction, and Gárudá begged pardon for his offences, and asked leave to depart, saying 'I am going beyond the sky, and the abodes of men, but will gratefully remember your Majesty wherever I may go.' 'Well, inquired the Prophet, what is your wish regarding the Prince and Princess?' 'O Súlman, replied Girdá, I give them up to you, for you know best what should be done.' 'Well, observed Súlman, since this is your reply, depart thou, and go thou out from hence this very day, far away from the land where mankind dwell, and stay thou in the sea called Kulzoom ڪولڙ (a Port

on the red sea) [*m*] which lies far beyond the haunts of men.' Girdā departed and obeyed the Prophet's command.

Súliman now directed one of his ministers to indite a letter in the Chinese language to be sent to the Emperor of China to inform him of all these proceedings of Girdā towards the Prince of Rúm, and he then asked the Prince if he had been escorted by any chief enjoying the confidence of the Rájá of Rúm. The Prince hereupon acquainted king Súliman with the name of Márong Máháwángsá, and where he might probably be found, if still alive. One of the ministers present, named *Dewa*, here informed his Majesty that Márong Máháwángsá was residing on the *continent* opposite to *Puto Srai*, waiting to try and gain tidings respecting the fate of the Prince. Accordingly the King directed this piece of intelligence to be inserted in the letter—which after *having read* he approved of. It was also requested in the letter that Márong Máháwángsá should be directed to return home as if directed by the Rájá of Rúm.

Then addressing the king of the Jin, his Majesty said, 'Let my master take with him one thousand armies of Jins, and convey the Prince and Princess and the two attendants, with this chest, to China, and pray see that the royal pair be married according to all usual courtly formalities and customs. Moreover you are to request the Emperor of China to address a letter to the Rájá of Rúm acquainting him with these events.'

The Prince and Princess having made obeisance to Súliman as did the four attendants, they entered the chest and locked it inside as before. Hurmanshah then directed his warriors to take up the chest—which having done, they followed him through the air towards China, escorted by the host of jins.

It so happened, that at this time the Emperor of China was assembled with all his state officers in his hall of audience in order to consult regarding the disappearance of the Princess, and the Prince and the ambassadors too from Rúm had not yet departed, as they were waiting to learn the result of the search. While the King was thus holding his Court, on a sudden Rájá Hurmanshah appeared at the front of the hall of audience, and his followers formed a line from the spot all the way to the gate of the fort.

When the Manzkobumi, or Prime Minister of the Emperor, beheld him and his host of jins, he arose, and taking another chief with him, he went out and thus accosted Hurmanshah

‘who are you my Lord, and who are all these along with you who thus appear so suddenly in front of the audience chamber?’

‘I have come, said Hurmanshah, as the bearer of a letter from my Rájá, who is Lord over all the created beings of this earth, the Prophet Súlman—to his Majesty the Emperor your master.’ The Vizier and the other courtiers on hearing this reply, took each a hold of one of Hurmanshah’s hands and led him forthwith into the presence. When the Emperor saw them approach he rose and paid him respectful *homage*—at the same time he was amazed at seeing the strangers place a large chest before him. ‘I pray you to sit down’, said His Majesty addressing Hurmanshah. The latter now produced and delivered his letter which the Emperor raised over his head, kissed, and then delivered into the hands of the Prime Minister, who after having raised it in like manner over his head, and having done honor to it by a thousand marks of respect, stood up, opened and read it (aloud). It ran thus :—

“This letter is addressed and sent by the Prophet of God Súlman to the Rájá of the country of China, in order that my Lord may be made aware of the actions of the bird Girdá, his behaviour to your daughter, and also to your son-in-law the Prince of Rúm, and also to acquaint my Lord with the terrible loss in ships, men and goods, which has been sustained by the Rájá of Rúm from the evil acts of this Girdá, and this too when the Rájá was sending his son to form an alliance by marriage with your Majesty’s daughter. I have luckily met with these two young people at once, and therefore hasten to send them to your Majesty in charge of my obedient minister and servant, Rájá Hurmanshah. I pray my lord to properly arrange every thing expeditiously, and in a manner befitting the rank of mighty rulers. I request also that my lord will despatch a letter to the Rájá of Rúm to bid him send and collect the [scattered remnants of the] fleet, and the chiefs and men above alluded to. In the chest are the Prince and Princess, and two attendants, who I pray you to receive from me. All this your humble servant reports.”

When the letter had been thus read, there was a shaking of hands and all resumed their seats. The Emperor said to Hurmanshah ‘I pray you my lord and brother to refresh yourself with this *betel* leaf, and pray will your highness now order the chest to be opened.’ When the Princess heard the voice of her father she quickly opened the chest, and came out of it along with her three companions. His Ma-

jesty embraced and kissed his daughter, and joyfully shook hands with the Prince of Rúm, after which he led the latter by the hand and placed him close to his right hand. He also directed the chest to be removed to the palace. 'But where, exclaimed his Majesty is the Rúmish Ambassador?' The latter soon made his appearance when the king asked.—'Is this your Master?'—pointing to the Prince. The former replied, 'yes your Majesty, it was he who sailed for China with so many hundreds of vessels which were lost with all in them, thousands in number. I have been staying *three years* here in China in the hope of gaining intelligence of you, my liege'—addressing the Prince of Rúm. 'Oh *Shahbúndará*,' rejoined the Prince, your lordship has done me a great kindness. But if I had not fortunately met with the Prophet Súlíman, who knows where I might have died.' Hurmanshah now got leave to depart, and after him the Shábundará bearing a letter took his leave.

The Emperor next ordered letters to be despatched to the Rájás of all the countries subject to China, directing them to forward to court supplies of provisions of all kinds, and complimentary gifts [or *hadiya*.] When every thing was ready the nuptials were solemnized with the pomp and circumstance usual with mighty Princes. (n) [6]

NOTES.

[6] I cannot help believing that the preceding description, however it may be dressed up in the garb of fiction, had some facts for its foundation. But I suspect that our author was not well read in the customs of China when he wrote—and that he borrowed some traits and manners from those prevailing at Malayan courts. Thus, amongst other things, he makes the Emperor an eater of *betel leaf*, a *luxury* which Chinese, notwithstanding all their very strange dietetical fancies, do not seem to have ever approved of.

Respecting the wall in the palace of China which was covered with mirrors, it may be remarked that they were probably brought from the west, although the Chinese doubtless made inferior kinds to those of that portion of the world. The Malays who were never a manufacturing people—at least as to the article of glass, were provided with mirrors long before the arrival of Europeans to trade to the eastward. In the Malayan Annals we find it stated—“As for Tun Hassan—he had a mirror as large as himself standing

(n) That the marriage noticed by Marco Polo was the only one of the kind can scarcely be supposed. So long as the Chinese Mahometan Emperors, regarded with reverential or friendly feelings the potentates of the same faith in the west, for so long would they seek to ally themselves with these by marriages.

“ unright, and he dressed himself by it”—and the palace of the Rájá of Malacca “ had a peak of red glass, and leaden conduits.”

[¹] Coloured glass probably came from India, since Fá Hien so far back as A. D. 400 mentions it, and glass pinnacles to temples were introduced into Ceylon during the reign of Sangatissa. A. D. 224.

[²] It seems to have been first made in Egypt. I have found it amongst the ruins of temples in Province Wellesley and Keddah of the following colours,—namely black, blue, reddish, violet, green, yellow.

The name of *Dewá* or *Devá* occurs as one of Solomon’s ministers. It is a Hindú or Indian appellative, being so far in keeping with other names contained in our text. But it is a word too derived to India from a western language—and we should not overlook the fact that previous to their conversion to Islamism the Arabs were idolaters, and the Persians also, these last being at one time as it is supposed Buddhists.

The Ambassador was the Shahbandára of Rúm, a *Persian title* for the officer of state who superintends a port. From the sequel it seems not improbable that he reached China by land—that is if such a person did arrive there at all. The story of the chest might possibly bear some allusion to a caravan.

The introduction amongst the nations of the west, first of Christianity and afterwards of Islamism, had altered considerably the communications betwixt that quarter of the globe and the regions of Eastern Asia. So long as Western Asia held fast to its idolatries, a ready door was opened to it towards all the more eastern religions, and probably an intercourse had existed far anterior to any dates now extant. The following are some of the dates most apposite to the subject of the ancient intercourse betwixt the Chinese and the people of the West :

	B. C.	A. D.
A very active intercourse was kept up betwixt India and China from the year (³).....	}	1 to
Confirmed by Pliny from A. D. 1 to 44.....		1000
China sent an Expedition to the Caspian ...		97
No mention is made of the intercourse betwixt China and India until (⁴).....	B. C.	
Buddhism was conveyed to China via Palibothra route in (⁵)	126	65
Brahman merchants traded personally with China proceeding there to the City of Nankin, in vessels having crews of two hundred men at least and touching in the way at Java in (⁶)		414

[¹] Leyden’s Translation p. 271.

[²] Máhávánso.

[³] Du Guines and Marshman.

[⁴] As Res. IX p. 40.

[⁵] Wilford A. R. v. 11 p. 81 et seq.

[⁶] Fa Hien.

Chinese Embassy to the Scythians.....	122	
Du Guines says that the King of Scientso or India sent presents to the Emperor of China <i>by sea</i> about the year.....		159 to 161
The King of Kapiii sent Ambassadors to China the chief of whom was a Buddhist in ⁽¹⁾ ..		428 466 468
Again the King of the Pali or of Magadha sent an Embassy.....		473
King of Kapila A. D. 466 and Kandahar ⁽²⁾		455
Embassies were sent from Oodiana to China in the following consecutive periods ⁽³⁾ ..		502 510
Likewise from the Kingdom of Soom A. D. 441 and of Ghandara both in India A. D. 455..		511 516
Magadha A. D. 642 [M. Landresse—No. XII J. R. A. S. p. 346.....		518 521
Cosmas Indicopleustes, says that Ceylon was the emporium of the trade betwixt China and the Gulf of Arabia and Persia in.....		522 547
Another Embassy from Oodiana or else Magadha or Behar.....		642
Ambassadors from Southern India informed King Sen Woo of China that India then carried on a trade with the Roman empire and Syria ⁽⁴⁾ ..		500 to 516
Arabs traded briskly betwixt Omar in the Persian Gulf and China from ⁽⁵⁾ ..		450 to 850
Chinese Embassy to Magadha.....		648
Arabs traded to China and the Eastern Islands in ⁽⁶⁾		900
Sykes says that China did not get this name until....	260	
Chin was the name given to China by the Persians and Arabs and also by the people of the Indian Archipelago. ⁽⁷⁾ It appears from the Mähawānso that the name China was not imposed until about—B. C.	206	
It is stated by Sir W. Jones somewhere in the Asiatic Researches that the Chinas were a caste of Hindoos, (Buddhists rather) who separated themselves from the Indians and proceeded to China.		
An Embassy from Outchang or Oudiyara to China ..		502
Crawfurd observes that Dhirma fled from India to		

[¹] Wilford A. R. v. IX p. 44 & 297.

[²] Chinese author Ma Twan Lin.

[³] Li. Col. Sykes quoting Chinese authorities opened by M. Landresse and other French writers,

[⁴] Chinese records Wan Hin and Thi-ung Kaou M. Landresse.

[⁵] Mahawanso by Turnour

[⁶] Crawfurd.

[⁷] Crawfurd Archipelago v. III.

China taking Buddhist books with him in ⁽¹⁾	519
And that that religion reached Cochin-china in.....	540
Some imagine that Bactria was their native country ⁽²⁾	
Magadha sends an Embassy to China.....	647
China Emperor sends one to Patna.....	650
The five Indias sent Embassadors to China in	to
	683
	667

According to Remusat the travels of the Chinese *Lao-tseu* shew that he travelled to the west B. C. 600.

A Buddhist missionary reached China from the west in B. C. 217. But the *official or state adoption* of the religion did not take place until A. D. 58—and many priests of that faith arrived from Bokhara from the country of the Getes and from Hindustan to form establishments, and they preached their doctrines and taught the languages of India ⁽³⁾

Fá Hian already quoted as the Chinese priest who travelled to India, by land, and returned via Ceylon, had crossed the Chinese frontier in A. D. 399. He touched at Java A. D. 414.

When Fá Hian returned to China the vessel had 200 men on board or was capable of accommodating that number.

Some light might be thrown upon the different forms assumed by the Bali character during the periods where the Chinese B. Missionary Travellers Fá Hian, Hiu-an Shsang, and Soung Young respectively visited India, should copies of some of the many Bali works which they carried back to China be still extant in the latter country.

Cosmas Indicopleustes states that in his time between A. D. 522 and A. D. 547 Ceylon was the emporium for trade between China and the Persian and Arabian gulfs

The Chinas were one of the ^[4] tribes which according to Menu had lost caste and sunk to the lowest grade, and were called in Sanscrit Chin. Klaproth says that *Tsin* is the name of the Dynasty which reigned over China B. C. 249 to 202. But Menu is believed to have written about A. D. 500 and the various castes he describes are supposed to have been Buddhists.

In the *Nouv. Mélanges Asiatiques* Tom I p. 796 quoted by Lt.-Col. Sykes, the following dates occur besides those already noted :

There is a *tradition* that the emperor Ming Se A. D. 58 to 76 sent ambassadors to India to inquire about Buddha: the consequence was that Buddhism began to prevail in China A. D. 147 to 167.

[1] Crawford Mission to Siam.

[2] Lt. Col. Sykes No. XII J. R. A. S. p. 304.

[3] Lt. Col. Sykes No. XII Do. Do. Art. XIV. J. R. A. S.

[4] J. R. A. S. No. XIII p. 393.

An embassy under the Woo Dynasty passed through Burmah and coasted India A. D. 222 to 280. Chinese travellers found the kingdom of the Fralimans to lie in the Punjab A. D. 643.

A. D. 713 to 742 an ambassador arrived from central India and one from northern India. In A. D. 953 priests of Buddha from western India reached China, bearing tribute, horses amongst other things. A Chinese Buddhist priest returned with books from India having resided there twelve years. It appears that the missions to and from China went and came by land.

Mr Taylor questions the appellation of Chin or Chinas as having been bestowed on China, owing to outrasts reaching it from India [¹] Mátsá Chin, or Shensi seems to have been the proper region of China. China can be no other than the eastern part of the valley of Assam.

	B.C.	A.D.
The Scythians invaded and conquered Affghanistan [²]	200 to	
Held possession till	250	300
And also of other parts of India till		500

These Scythians were Buddhists

But if the Malayan Annals are to be trusted the Emperors of China did not permit a difference in religious belief to oppose any matrimonial alliance which they had in view for themselves or families.

Sultan Mansurshah the Mahometan Rájá or Ru'ler of Malacca had sent a mission to China in return for one despatched to him by the Emperor. The latter asked the Malacca Envoys if they could persuade the Sultan to pay him a visit, in order that he might bestow his daughter *Hong Lipo* upon him in marriage. As the envoys replied that it would be impossible for the Sultan to come so far, the Emperor sent this Princess with a large retinue to Malacca. Before the marriage took place the Sultan directed that Hong Lipo and all the daughters of the Chinese mantries who accompanied her should be converted to Islamism.

The then Emperor was consequently a pagan. Hence too he had at his meals fifteen gantang [³] of husked rice—one *hog* and a tub of *hogs lard* [⁴]. It is probable however that this Princess was the daughter of one of his handmaids, and if true at all it would evince that women then could leave China (a)

The wife of the last Buddhist King of Java in about A. D. 1478 was a Chinese [⁵]. In the same annals it is related that the Rájá of China sent to Paralembang—[Paralembangan or Palembang] or *Andalas*, ten prahus or vessels with a request that Sangsopurbhá [the Hindoo Rájá of that place in Sumatra] would grant him his

[¹] J. A. S. B. Jany. 1847 p. 27 et Seq.

[²] Lt. Col. Sykes J. R. A. S. No. XII.

[³] A gantang is nearly equal to 1½ gallon.

[⁴] Mal. An. by Leyden p. 17.

[⁵] Crawford's Archipelago vol. 3d.

(a) Vide Jour. Ind. Arch., v. 2, p. 611. —Ed.

daughter in marriage — along with the letter were 100 male and 100 female slaves. Malayan women at the present day frequently marry Chinese and without the formality even of abjuring their religion. As Chinese women are very scarce out of China the converse but very rarely happens.

It does not appear that a vessel was despatched at this period to *Pulo Percha*. This is the name still applied, by the people to the eastward, to the Island of *Sumatra*. **فرچ** Percha is the Persian **پارچه** pachah signifying a piece or robe, but in the Malayan it properly means a remnant or piece of cloth, rag, or tatter, both of which etymons however throwing no light on the subject. The Arabs probably from some fancy of their own give the Island this name. There is a large tree which grows in the Straits and probably also in Sumatra named pokok percha, from which is procured the gum or *gitta percha* lately introduced into commerce. Marsden does not seem to have heard of the word as thus applied in the latter instance. He says *Indulas* was a name of that Island. Allusion is made to this Island further on.

(To be Continued)

THE MYTHOLOGY OF THE DYAKS.*

By the Rev. T. F. BECKER, *Missionary on the South Coast of Borneo.*

THE notions of the Dyaks respecting the spiritual world are in general much confused and at variance with each other. They agree however in the belief in good and evil spirits. The good spirits are divided into two classes, viz, spirits of the world above or of the higher regions, who are comprised under the collective denomination of "Sengiang," and spirits of the lower regions, or more properly such as have their dominion in the waters, in great rivers, and those are called "Jata." The collective name of the evil spirits is "Talo-papa"—which word signifies in general all bad things.

It is to be observed here that the Dyaks describe the aspect of the regions above as similar to the terrestrial world. Mountains, valleys, streams, lakes, &c., &c., are found there as well as here beneath, and the dominions of various spirits are bounded by the different streams and branches of the rivers.

I. GOOD SPIRITS.

a. of the higher regions.

1.—"Hatalla" (God) is the Supreme Lord of all the good and evil spirits. He reigns above, and according to his will; all are bound to do homage to him and to obey his commands. His habitation is "Bukit ngantong-gandang" a suspended and advancing, mountain situated on the banks of a very large river. Hatalla is sole (tongal,) but has a wife, who however is undefined. He also has children, viz, seven daughters and one son. The most distinguished of his daughters is called "Padadzri" and his son "Ombon bulan."

Padadari is invoked in prophesying and casting lots, (betenung)—and Ombon bulan in the decision of judicial matters by diving ("hateser.")

2.—The second in rank is "Rájá ontong" (the king of fortune, also called "Rájá blawang bulan" (the king of the door to the gold) and his wife "Puter sawawalang langit." Rájá ontong has always superabundant work, and his hands may never be at rest. "Bulan, salaka, garantong, blanga" (gold, silver, gongs, pots) are in great request among them, and each desires more of them than the other. However

* The people thus denominated must not be confounded with the Dáyá of the west coast. They inhabit the borders of the river of Baujermassing and some of the other southern rivers, and their proper designation is NGAJU or BIAJU. They are also called KAHAYAN from the great river of that name.—Ed.

great and superabundant the treasures of the Rájá ontong may be, he is not permitted to dispose of them arbitrarily ;— before bestowing on his suppliant his desired portion, he is bound to await the approval of Hatalla, which is never granted unless the preliminary proceedings are all done in due form, which of course is not always the case. It is lucky for the king of fortune that he need not personally appear before Hatalla on each request made to him, but may transact the affair in writing, since otherwise his legs would seldom be at rest.

3.—In the 3rd place stand the spirits "*Tempon-tellon, Singumang, Bapapaloo, Tempon-kanarean, Menjamei, Rájá hautangun, Sakanak, Lilang*" These are the nearest to men and distribute over all their lots. Tempon-tellon ("proprietor of Tellon," a slave) is principally the protector of the dead; all souls are given into his care by the priests on the *Tiwas* (feast of the dead,) and he conducts the same by his slave Tellon in an iron ship ("*benama*") to the "*lewu lian*" (habitation of the souls,) called "*Lewu Kawawahan bular*" ("the exterior golden frontier town") or likewise "*Batang danum Katambungan njaho*" ("the river above the thunder.") It might be inferred from this, that the construction of iron vessels seems to have been known to the Dyaks earlier than to the civilized Europeans.

The vessel is of iron, as Paganja the priest here says, in order to prevent its being sometimes consumed by the flames when passing along the hell, and to bring in that way the passengers in safety to the place of their destination.

Singumang has great power and an extensive district to govern, and after Tempon-tellon he stands in higher veneration than all his colleagues. All the nine spirits are invoked each in their turn; however, the two first are regarded with the greatest confidence.

Another good spirit, equal in rank to the last enumerated, is "*Jarang bawan*," who has his habitation on the point of an island, close to the sea, called "*hujung pandaran*." This spirit is uncommonly strong "*paham abas*," and may be considered the Hercules of the Dyaks. His activity is in accordance to his bodily strength, for every painful and onerous task is given to him to perform, and without his aid even Tempon-tellon and Singumang, the latter of whom is also considered to be of great strength, would often be at a loss.

4.—The "*Antang*" (Koloug, large bird of prey) we should say was no spirit, for he is not proof against thrust or shot, not "*tago*," and he has real flesh and bones, of the latter sub-

stance however the most, as it has been sufficiently ascertained here by dissection. But notwithstanding the plausibility of those reasons, the Dyaks have a great deal to say against it, and are perfectly convinced, of their red antang (two sorts of white and of black antangs also found here, are less generally revered) being at home a good *Nabi*, and on a journey a faithful guide and patron. He then is also of higher descent than he would appear if seen going his rounds with a hungry stomach, and greedily giving chase to every thing living, to rats, frogs, and other vermin, to which persons of high descent evince a great aversion and always give signs of uneasiness on merely hearing those objects mentioned.

The ancestor "Tato" of that respectable family of antangs, is a certain *Sambila-Tiong*, or rich son of a Kahaian chieftain of ancient times. This *Sambila-Tiong* is the first who pursued the practise so general in latter times among the Dyaks, of cutting off heads. His mother instigated him to it on the demise of her husband, when she refused to *tirru* before he had found the head of a man, with which to decorate the feast, whilst the soul of the beheaded was to be given to the deceased chief as a slave, to accompany him to the *lewei-lian*. *Sambila-Tiong* was obedient to the command of his mother. One day at an early hour in the morning he took his *lunju* and *mandan* (spear and sword,) some boiled rice rolled in pisang leaves, and took his way along a narrow and solitary path towards the neighbouring mountains. Arrived there he hid himself among the brushwood close to the path, watching eagerly for his prey. After waiting for some time a traveller appeared beneath at the brook, carrying a load on his back. Having passed, wading the rivulet, he advanced quickly and heedless towards the spot where *Sambila-Tiong* was concealed. The latter moved not, but let the poor stranger quietly pass over, and then suddenly throwing himself from behind upon his victim, pierced him with his *lunju* in the side, upon which he struggling fell forward to the ground.

Defence was impossible, before the mortally man wounded had recovered his spirits, the sharp two feet long *mandan* was through his neck, and the severed head rolled to the feet of the murderer. Eagerly grasped the latter the head by its long disentangled hair, and placing it in his *rambat* (a small oblong basket, exclusively used by males on a journey) returned home with his prey the same day, where his mother was waiting for him. The necessary preparations for the *tiwa* now were made without loss of time, and when all was ready

within about a month, the guests were invited in great numbers. But lo ! what happened. When the festivity had reached its height, and the kámpong resounded with the song of the *Blians* (dancing girls,) when shot after shot shook the house, in which the exulting people were crowded, the songs of the "*Olo maga lian*" (the hymn sung by the guide of the soul) rising higher and higher, commending the departed soul of the *Tomogong* and that of his slave, the beheaded traveller, to the care of *Tempon-tellon*, inflaming and transporting the spirits of the multitude : then suddenly, in the twinkling of an eye, *Sambila-Tiong* was transformed into an *Antang*, and, fluttering with his long red wings above the heads of the *Blians* and the *Olo maga lian*, reached the open door. Escaping by it he soared aloft and gyrating in great wide circles above the kámpong for some seconds, he then betook himself to the solitary shores of the *danaus* (inland lakes) in the mountains, whence subsequently his numerous descendants spread themselves not only over that large island, but also over the whole of the Indian Archipelago.

On this fiction is founded the high veneration in which the *Antang* stands among the Dyaks, who consult him in all important undertakings, and never set out on a journey without having first assured themselves of his approbation, which he makes known to his votaries by his significant flight, for which of course marks of gratitude are shown to him, the king of the airy regions by royal banquets. After the conclusions of these entertainments the travellers set out with great composure and totally careless about the things to come, relying on their patron, who, they are sure, will be constantly near them. Every one sees in him an old friend and countryman, who, although elevated to a higher rank, is always deeply concerned in the fate of his family, and delights in their friendship and confidence. One point however is not altogether in accordance with their notion of his benevolence, viz., his fondness for chickens, which is so great that he always carries with him a great number to his *kala tangiran* (a lofty tree.) If his visits are too frequent, the people, when they see him swooping down from his airy castle, place themselves in the doors of their houses, and deafen his ears with shrill cries at the utmost pitch of their voices. This is all that is deemed necessary ; to receive him with a charge of small shot is a thing which nobody dreams of, probably also from his being considered "*tago*." Great was the surprise of the peasants when on one occasion the writer brought one of their *Nabis* down from his *tangiran* with a little small

shot, just when he was occupied preparing his fare; "Hau matei kea iā!" (ha, he is dead indeed!) they exclaimed aloud when a little Chinese boy dragged him out of the long grass.

b. in the water.

The *Jatas* are as numerous as the rivers and brooks in the island, i. e. legion, and the power they exercise is so great, that were their rule abolished the whole population of Borneo would become extinct, since it is they who grant children. Many a wife who has passed years in solitary retreat, her eyes reddened by weeping for grief and for shame, if she sacrifice to *Jata* a goat, or what is better, a buffalo ("hadongan"), and give him a good piece of it to relish in a remote and quiet creek of the river, where he generally stands watching in the depth with watering mouth, adding to this repast sometimes a ravishing concert by the *Blians*, who on such occasions do not spare their lungs, she may be sure that her loneliness will soon pass away, and her grief and shame be changed into the joys of a mother.

The following are some of the names of those *Jatas*:—The *Jata* of the river *Pulopetak* has the name of "Sultan Kuning;" those of the two ends of the *antasan* (channel) *Lopak* are called "Raden Kudong" and "Raden Panambahan;" and he of the *Kapuas* river, *Andin maling guna*. To judge from the etymology of these names the *Djatas* have been introduced amongst the *Dyaks* by the Malays, which opinion gains ground by the accounts of several travellers who prove that the *Djatas* are entirely unknown in the interior of the country.

II. EVIL SPIRITS.

a. of the higher regions.

1.—The most feared of all the evil spirits is the "Rájá Sial" [king of misfortune] who has his seat directly opposite the Rájá ontong, on the left branch of the same river inhabited by the latter. The Rájá Sial visits men with adversity, all kinds of calamity, sickness &c. and it is thus not to be wondered at, if he keeps men in awe, who endeavour to conciliate him with a multitude of pigs offered in the hope of gaining a favourable look from him.

2.—A second rascal is the "Kamiak," who flies like a bird, and directs his malignity chiefly towards pregnant women. He shuts the incipient citizens of the earth so closely up in the place of their hidden abode, that none would ever come forth were it not for the precaution of the women with child, who judiciously prepare an offering of rice and the flesh of pigs or

chickens, which is placed in a small "balei" (a little case made of bambu 6-8 feet in circumference) and properly hung to a tree at the river side, by which means he is propitiated and a licence obtained for the future inhabitant of this world.

3.—Another evil spirit is the "Rájá hantuen" (king of spells and charms) who has no fixed habitation and is also called "Rájá dohong." Men who come in contact with him receive his name and are called "Hantuen." Nothing in the world is more dangerous than such a demoniac. When the sun has withdrawn and concealed himself behind the impenetrable woods of the west, and the night spreads its black wings over the earth, then the time has arrived for the Hantuen to commence his terrible activity. He directs his course to a solitary spot, where he throws off his body and with nothing but his head and bowels he flies whistling over hill and dale, visits the graves, where he devours the hearts of the newly interred corpses, approaches men on their beds, from whose veins he sucks the blood to the last drop, so that nothing is left but a lifeless corpse, and when the melancholy tone of the bird Tantint rings over from the solitary brook, the signal of approaching morning, the cruel Hantuen, drunk with human blood, returns to his cold stiff body, and appears again in the midst of his fellow creatures, whom he a little while before had so treacherously attacked and bideously mangled.

Once however in Mantangei such a Hantuen in its nightly perambulations nearly had the worst of it. It was a woman still in the prime of her age, who had devoted herself to the above-mentioned spirit. She took her way along the river Kapuas, but having gone too far it was impossible for her to reach before break of day her abandoned hollow body, and in order to save herself from being killed by the rays of the rising sun, she was under the necessity of availing herself of the first shelter. She chose a house, where she concealed herself under a basket in which a hen was hatching. The fowl, terrified by the appearance of the hideous figure, rushed from the nest, rambled crying over the ground and returned to the basket with redoubled cries, fluttering about the spot and trying with all her power to dislodge the unwelcome guest from the cherished spot. An old woman, whose attention had been attracted for some time by the hen, approached softly and looking over the brim of the basket, discovered the Hantuen. "Come here," said the latter, "you can be of great service to me, and I shall reward you fully for it. Place me in your buta [a small oblong basket] which you

“carry on your back, and bring me to that house here behind; if you find people, who sometimes have a bichara there [a council] don’t mind that, but walk through the midst of the house up to the door which is opposite to you, open that and close it again behind you, creep into the jangkot (curtain) which you will find in the room, and place me there without noise; your debts, amounting to 20 kipings [40 fl.] shall be paid by me up to the last farthing and you shall be free.” The old woman, much as she was at first frightened by the ugly apparition, yet could not resist the alluring promise. She took her buta down, took the head from the chicken basket, from which the bowels hung down, swinging like long slippery ropes, and placing the whole in the buta, she went without delay to the house pointed out to her. On her arrival there she found a number of people gathered, some of whom questioned her “kasen ikan?” (Whither are you going? or what is the matter with you?) She however gave a short evasive answer and went straight on through the house up to the chamber opposite. Arrived there and having closed the door behind her, she crawled, shuddering however, under a tent suspended in a corner and found there the lifeless hollow body stretched out on a mat; depositing there the buta she quickly withdrew, wiping the cold sweat from her forehead. Within half an hour the young wife appeared outside and joined in the conversation, although still looking pale and worn out. The next day the old woman was delivered from her bondage and rejoiced that she had carried on her back the Hantuen.

Worse than this woman fared another Hantuen, a man, who, as every body knew, had carried on his nightly calling for many a year. Since he never could be caught in his nocturnal perambulations, the people watched for an opportunity in the day-time to wean him from his habits of tormenting others for ever. There was a feast and the guests had bravely applied to the bottle, when he, who by all was believed to be a Hantuen, entered and without suspicion mixed with the gay company. Scarcely however had he taken his seat, when one of the guests commenced to sneer at him, inciting the gathered crowd against him and calling him a Hantuen, which word roused and inflamed the whole of the people to such a degree that they resolved at once to deprive the unlucky Hantuen of life. Instantly all the mandans were drawn from their scabbards and plunged into the body of the accused victim. Several of the murderers, who thought they had performed a good work, were afterwards imprisoned for a

long time in Banjer by the Resident Goldman. Some of them are still alive. There is no worse epithet among the Dyaks than that of Hantuen, and should any body be so inconsiderate as to apply that name to another, he may be sure he will be heavily fined.

b. of the Woods.

The ghosts of the forest are also numerous and there is scarcely a lofty tree without being inhabited by one at least of these monsters. Some of their names are the following: "Ijin Nyaring" (who has a hair as red as fire and is said to be a true Judas,) "Krian" (a dwarf and thorough rascal) "Pujut" (with an oblong pointed head in the shape of a cone,) and "Behutei," which latter has no peculiar form, but appears in different shapes, for the most part however as a dog, pig, deer, and buffalo. Since Behutei so often changes his form, it is not easy to recognize him and he is thus more dangerous. Many a person who has pursued with a sunpitan, which serves also as a spear, what appears to be a deer or pig, when at length he drops down exhausted and breathless from his exertion, discovers to his great dismay that he has had the Behutei before him, which, enraged, endeavours to do him mischief.

Kassim a young Dyak of Pulo Petak went some years ago on a journey to Banjer. On his return he saw a large white pig running along the shore at the mouth of the river Banjer. "Has" (come hither) he cried out to his companions, let us "mengapangen" (surround) this pig and catch it. So said, so done. Having taken the necessary arms and fastened the prau to a projecting bough of a tree, Kassim was the first who jumped on shore, and observing the pig not to be a great proficient in running, he advanced towards it, and pursued it eagerly. He overtook it in a few moments, and, raising his spear, made a thrust with all his force at the pig. But instead of piercing it, the spear passed along its body at some distance through the air, and Kassim fell with his face to the ground. However our sportsman did not despair. The pig still rambling and grunting before him seemed to wait for another attack. This was soon made, but without better success than the first, and several others by Kassim and his companions failed also. Thus were the hunters obliged to return disappointed to their prau, and, instead enjoying a juicy piece of pork, had to content themselves with a more frugal meal of dry rice with some sambal and "blasen" (trasi). Meanwhile it had grown dark and they resolved to pass the night on the same spot.

Scarcely were they asleep when Kassim was visited by a dream which made his hair stand on end. He saw the white pig advancing towards him bearing on its back a terrible rider, who, fixing his piercing eyes on him, up-braided him in these words; "Look here, said he, pointing to his pig, "this is my horse (hajaran), you have given chase to it, you have attempted to kill it, but fortunately you did not succeed, or you would have forfeited your life. Even now you shall not come off easily, unless you leave this place instantly." After these words horse and rider disappeared and Kassim awoke, shuddering all over. At the break of day they prepared for departure from the haunted place. But how to cross the mouth of the Lopak? The wind was right ahead and the waves struck against the boat, increasing in height as they advanced towards the sea. There was no possibility of getting away. However great the fear of Kassim and his anxiety to leave that awful place behind, yet he was compelled by the contrary wind to postpone his departure. Evening had not yet arrived, however, when the threat of the rider on the white pig, or of Belutei, for it was he, was completely fulfilled. Both the arms of Kassim were attacked by a terrible pain, and his hands suddenly became lame, so that he could not possibly move them any more. On his return to Pulo Petak he came to the writer asking for some physic, but notwithstanding the greatest care bestowed on him, for a whole month he could not carry his hands to his head, and, had to be fed by his mother like a child.

Besides Belutei, who makes his power of transforming himself the means of annoying mankind, his allies, the *Idin Nya-ring*, *Krian* & *Pujut* are in some respects equally dangerous, since they suddenly and unexpectedly rush upon their victims and lodge themselves without further ceremony in the midst of their hearts, upon which the victims immediately become raving mad, and commit strange if not horrible actions. One must take care not to come close to such a demoniac, especially if knives or spears are at hand; their fury, once roused, has no bounds, and their strength is more than natural.

Last year *Demang*, the chief of Mentanger, with two of his friends, were cruelly murdered by such a lunatic. *Demang* had just seated himself for a *bicharà* in the presence of a large number of people sitting round him in a circle. The demoniac was next the chief and for sometime quietly participated in the conversation; suddenly, however, hurt by some reproachful remarks of *Demang*, he looked wildly round and seeing on the wall a sumpitan with a sort of bayonet, he rushed forward and

seized it, and, turning against Dēmang, laid him weltering in his blood. Before preparations could be made for defence or flight, two more of those present, near relatives of Dēmang, fell under the strong arm of the madman; at last the others seized the murderer and wrested the bloody weapon from his hands. His fate was soon decided. Bound by ropes to a tree before the house, he was assailed by the widow of the chief with the same instrument which a moment before had pierced the heart of her husband. With the weapon plunged into his breast he expired. His corpse, covered with wounds, was interred the same day with those of his victims, though in a separate spot.

The localities or trees, known to be inhabited by those spirits, are called *Pahewan*, which word signifies "un-accessible." Should they possess the finest wood no Dyak is daring enough to cut it down. One of the missionaries here was once in want of nǐbongs, and it being then the dry season, it was not practicable to bring the wood down from the higher land. The nǐbongs growing on the river were all pahewan. He had no other resource but to take the nǐbongs from these pahewans, the wood of which besides was better than that found elsewhere. But notwithstanding his efforts to bring the Dyaks to reason, and although the highest rate of remuneration was promised, no one could be induced to undertake the task. To convince them of the absurdity of their fears, he placed himself at the head of a party of them and went to the dreaded spot. Taking the axe from one of them and applying it to one of the bewitched trees, his heroic companions retired to a respectful distance and stood in breathless expectation. Stroke after stroke was applied, and before the lapse of five minutes the tree came crashing to the ground, without the appearance of a ghost or any extraordinary accident. The leader of course supposed that he had for ever dislodged the fear of the "pahewans" from the hearts of his Dyaks. But far from that! "*Ikan olo beputi, ikei olo ngaju*" (you are a white man, but we are Dyaks) they said, meaning thereby, what you can do, it does not follow that we also can do. Several trees, it is true, were cut down, but, though nothing happened during the process, the old fear soon entirely returned, and on another occasion the same obstacle would be met with. At another time the Resident of Banjermassing, Mr Ondaadje, when on a visit to Pulo Petak, ordered some Banjarese to cut down a large tree which was known to be the rendezvous of several evil spirits.

All went on well, and nothing happened during the whole day. But some days later two or three persons in the house of Pati, situated near the pahewan, fell sick and died in a short time. In the night the Nyaring appeared before Pati with grisly features, and raised his right hand against him; "Well," said Pati, "what do you want from me, why are you thus enraged, and why have you killed the people in my house?" "Because," said the ghost, "thou hast cut down the tree of my habitation." "It was not I," said Pati, "it was done by the Tuan Resident, and the Tuan Palita (teacher.)" "The Resident is no more here," answered the ghost, "and the Tuan Falita I dare not approach, neither can I find out his house, therefore must you, the chief, answer for it."

The next morning consequently the usual solemnity took place. A lilá was fired, the Blians were called, the knife was applied to the throat of a large pig, enormous pots with "tuak" (liquor) were paraded on a large mat placed in the centre of the house, and neither trouble nor expense was spared to appease the anger of the Nyaring and avert further mischief. Some time after this event several Dyaks went up to the Mengkatib river, to cut wood. One of them happened to get bruised by a falling tree, and died within a few days—under excruciating pain. By this, the spot where the accident had happened, became known as "pahewan haliei" (an extremely haunted place.) But how was the deceased to be vindicated? His friend who had accompanied him on the cutting of the wood followed the example of Pati. He killed a pig, dressed it, and brought a considerable portion to the place of terror, thus conciliating for the deceased the offended wood spirit, and consecrating (*menjaki*) himself for the part he had taken in felling the trees.

c. of the earth.

The collective name of the Spirits of the earth is "*Kloä*." These, if banded together, would form a formidable army, but being spread over the whole earth, and sometimes seated deep in the ground, no such gathering is conceivable. One might be tempted to give the "*Kloä*" a place amongst the Amazons, were their long breast placed on the left side and not in the midst of the bust. They are not less heroic and warlike than their ancestral relations, but their swords and bows are chiefly turned against the female sex. As we have seen above, the object of the Kamiak is to prevent the extension of the human race by locking up the young in-

cipient citizens of the world so long beyond the usual time of their captivity of nine months, that they come to look upon the prospect of the land of liberty so close at hand as a mere dream. The Kloä on the contrary, though generally aiming at the same object, pursue a different course; they quietly lie in wait till the moment when the little stranger for the first time is to hail the land of liberty, but then quickly coming forth from their hiding places, grasp the little crier by his neck, and lo—he is deformed into a “pehingen” (monsterbirth.) Generally however the women, knowing their formidable foe by tradition, are on their guard against her, and spare neither stratagems nor craft, to throw dust in the eyes of the Kloä; their chief expedient, however is to make her fine promises, such as, to give her, if all goes on well, an invitation to a splendid dinner, profusely furnished with pork, chickens, rice &c; a vow which for the most part is fulfilled.

d. the last evil Spirit.

To him the name *Kukang* is given, and he has nothing in common with either of the abovementioned evil Spirits, though his disposition is equally malignant. The *Kukang* does not trouble himself about men during their lifetime, but as soon as a mortal has breathed his last, and the poor soul, after the long pilgrimage through the deserts of the island, takes her departure towards the places of repose, then he commences his hostilities. Midway he stands, just where the narrow path abruptly turns, with lunju (spear) and arrow, waiting with burning desire for the slowly approaching traveller. There, on that prominent inevitable point, he stands watching day and night, and never sleeping nor resting lest a soul might take the opportunity of passing unobserved. If the wandering soul belonged to a rascal (“*olo bangang*”) it cannot pass that spot, the lunju of the *Kukang* annihilates it for ever, if it animated the body of a ‘*olo bahalass*’ or ‘*olo bujur*’ (of a good or righteous man) it must also do battle with the *Kukang*, but is victorious and reaches the place of destination.

A certain Tomogong Johong had a peculiarly severe encounter with the *Kukang*; the usual weapons of the soul were insufficient to force the passage, he therefore some hours after his demise, returned to his abandoned corpse, rose from his bed and walked through the house. When questioned by the inmates “*Buhen balang*”? (Why not through? or why was your attempt baffled?) he answered—“The *Kukang* nearly destroyed me, and I could not pass the formidable

point, I therefore come back to get my *olo lunju*, which was so many times of good service to me, then we shall see whether I shall not be able to get the better of that damned *Kukang*, and whether the 'totok' (point) of my *lunju* shall not penetrate his strong breast." When he had taken the *lunju* from the wall he stretched himself again on his bed, laying the weapon near him and shut his eyes never to open them any more. A little while afterwards the *lunju* was elevated from the ground and struck with its point the wall close to the corpse, a sign that the combat between the *Tomogong* and the *Kukang* had commenced; this motion of the *lunju* was reiterated several times, and when finally all had become quiet again and the weapon was drawn out from the wall, its point was red with blood. Thus the *Tomogong* had gained the victory and safely reached the longed for *lewu liau*, the Elysian fields. Nobody however supposed that the *Kukang* died from his wounds, and that the path to the regions of rest was now open to every one, and freed from its former difficulties and dangers. Far from it,—the *Kukang* speedily recovers from his wounds, and stands again on the dreaded spot, more jealous and enraged than ever.

PAWANGS *

By the Revd. P. FAVRE, *Apostolic Missionary, Malacca.*

THE Pawangs are a class of men endowed with the power of performing the functions of priests,† teachers, physicians and sorcerers. Under any of these titles they have not much to do amongst the members of their own nation; many of them do not believe that the Pawang have any supernatural power as sorcerers or as priests, nor do they attribute any efficacy to the acts they perform under these two titles. Many others have great doubts on the subject: however some of them certainly acknowledge in them some extraordinary power, more or less. The Pawangs themselves, at least those I have seen, have very little confidence in their own ability either in their capacity of sorcerers or physicians. Though their knowledge be much circumscribed, they are generally more clever than their countrymen, and in every kind of sickness they are of course called upon. Their prescriptions are always accompanied with some superstitious practices, without which they are supposed to be of little or no effect. But it is amongst the Malays that their skill is much in honour, and their persons objects both of veneration and of fear. The Malays are ridiculously superstitious on that point; they have a firm faith in the efficacy of the supplications of the Pawangs, and an extraordinary dread of their supposed supernatural power. The Malays imagine that they are endowed with the power of curing every kind of sickness, and of killing an enemy however distant he may be, by the force of spells; and with the gift of discovering mines and hidden treasures. It is not uncommon to see Malay men and women, at the sight of a Binua Pawang throw themselves on the ground before him.

I could not ascertain the ordinary way for becoming a Pawang, nor discover any ceremony by which the Pawangship is entered upon: it appears very probable that uncommon natural ability, which is found from time to time in a few of the Binuas, gives a sufficient right to exercise the functions of such ministry. The right of inheritance seems

* Although this short notice contains no new information respecting the office of Pawang or Poyang, we insert it as confirmatory, so far as it goes, of the account of this, the Malayan Schaman, given in the paper on the Binua and Bermun tribes in our first volume (p. 275-7, 280, 282-3.)—ED.

† The functions of Priests amongst them consist only in performing some superstitious practices; since, as I have mentioned in another place, they have no true and real worship.

also to be looked for as contributing much to the claim of being Pawang. In the absence of more positive information on the subject, I will here quote a passage from Lieutenant Newbold.†

“The soul of a Pawang after death is supposed to enter into the body of a tiger. This metempsychosis is presumed to take place after the following fashion. The corpse of the Pawang is placed erect against the projection near the root of a large tree in the depth of the forest, and carefully watched and supplied with rice and water for seven days and nights by the friends and relations. During this period the transmigration (believed to be the result of an ancient compact made in olden times by the Pawang’s ancestors with a tiger) is imagined to be in active operation. On the seventh day, it is incumbent on the deceased Pawang’s son, should he be desirous of exercising similar supernatural powers, to take a censer and incense of kamunian wood, and to watch near the corpse alone, when the deceased will shortly appear in the form of a tiger on the point of making the fatal spring upon him. At this crisis it is necessary not to betray the slightest symptom of alarm but to cast with a bold heart and firm hand the incense on the fire; the seeming tiger will then disappear. The spectres of two beautiful women will next present themselves, and the novice will be cast into a deep trance, during which the initiation is presumed to be perfected. These aerial ladies thenceforward became his familiar spirits, by whose invisible agency the secrets of nature, the hidden treasures of the earth are unfolded to him. Should the heir of the Pawang omit to observe this ceremonial, the spirit of the deceased, it is believed, will re-enter forever the body of the tiger, and the mantle of enchantment be irrecoverably lost to the tribe.”

† Vol. II. page 387 and 388.

MR FREIDRICH'S RESEARCHES IN BALI.

WE have great satisfaction in presenting to our readers the commencement of the most important contribution that has yet been made to the knowledge of the literature and religion of the sole existing Hindu people in the Indian Archipelago—the Balinese. The almost universal influence which Hinduism at one period exercised in the Archipelago through its adoption by the most civilized and enterprising races, and of which every year brings to light new evidences in sculptures, superstitions and language, has invested Bali with the highest interest. Until recently however little progress was made in the investigation of its languages, sacred writings and prevalent worship. This we conceive is attributable to the same cause which has rendered our advancement in other directions so slow and imperfect, and which to this moment leaves the science of the Archipelago as a whole little better than a heap of fragments. This cause is not, as is sometimes said, the existence of insurmountable or serious impediments in the nature of its countries and the character of their inhabitants. We know of no obstacles which may not be overcome by determination, prudence, a conciliatory demeanour, and the exertion on behalf of scientific men of that direct and indirect influence which European governments, and native chiefs in their interest, now possess in most parts of the Archipelago. The real barrier has been the want of explorers possessed of sufficient knowledge, leisure and means. The first however has been the grand deficiency, and nothing can shew this better than the fact that the three Englishmen who have accomplished most,—Marsden, Raffles and Crawford,—were charged with laborious official duties during the whole period of their sojourn in the Archipelago. Prepared however by preliminary studies for original research, they extended our knowledge of the Archipelago in various directions, and, we may also add, each of them in proportion to the extent of his preparation for the work. Raffles and Crawford directed their attention to Bali, and threw considerable light upon it. The latter visited it, and from his great Javanese knowledge, and his addiction to philological pursuits, would have accomplished much if he had remained for some time on the island. The results of his enquiries, necessarily limited as they were, are embodied in an account of the Religion of Bali published in the Asiatic Researches, which has remained until now the chief

authority on the subject. At a much later period, many details respecting the actual condition of the Balinese were communicated by Dutch and English visitors. These are chiefly to be found in a "Short Account of the Island of Bali" published in the *Singapore Chronicle* in June 1830, and in Lieut. Melvill van Carnbee's papers in the *Tijdschrift voor Neerlands Indie*. But no visitor had yet possessed that knowledge of Sanskrit, without which access could not be obtained to the sacred literature of the island, and the learning of the sacerdotal families. Fortunately when the Netherlands Indian government sent an expedition against Biling in 1846, a scholar endowed with this knowledge, and who had already applied it to the study of the ancient languages of Java, was found in the person of Mr Freidrich, and, at the solicitation of the Batavian Society of Arts and Sciences, he was allowed to accompany the expedition. Mr Freidrich remained for some time in Bali, laboriously and successfully prosecuting his researches, collecting manuscripts, investigating the actual religion, and availing himself of the assistance of the priests in his philological studies. In our number for March last, we noticed the progress which Mr Freidrich was making, and inserted the important remarks of the learned President of the Batavian Society on the subject of Balinese literature. As he justly observed "the eyes of all the philologists in Europe are fixed upon Bali. From that island they anticipate a new light on the history of the Archipelago." In England the indifference to such investigations which continued to prevail, after the splendid and astonishing discoveries of the German philologists had arrested universal attention on the continent, is fast giving place to a juster estimate of the rank of the science of languages. The necessity of assuming it as the basis of ethnic enquiries, and the extreme interest of its results, are now widely appreciated. Even since this Journal was commenced, the progress of ideas on this subject has been striking. Ethnology, but newly recognized by the British Association as an independent science, occupies a considerable space in the Reports of the 17th meeting published last year, and the *Edinburgh Review* for October devotes a long and able article to the subject. In that paper our readers will find the same view taken of the importance of the languages of even the rudest tribes, and the same conclusions drawn from the nature of these languages, as we expressed in an early number of this Journal.* Believing therefore that the day is now past

* Introductory remarks to a series of contributions to the Ethnology of the Indian Archipelago. *Jour. Ind. Arch.* vol. 1 p. 171.

when such investigations were stigmatised as barren and dry, and knowing from Dr Prichard, in his last anniversary address, having directed the attention of the Ethnological Society to our previous notice of Mr Freidrich's researches, that their importance is fully understood in England, we lose no time in presenting our readers with a translation of his first essay.†

A PRELIMINARY ACCOUNT OF THE ISLAND OF BALI.

By R. FRIEDERICH.

INTRODUCTION.

I must request the indulgence of friendly readers for the following paper on Bali. Not having prepared myself for this labour on Bali itself, I had not the means of collecting and properly arranging all my materials. I could only use for this purpose a small portion of the valuable manuscripts of the priests which were placed at my disposal. I could not avail myself of the information of the natives as to many points, and I was deprived of a great part of my manuscripts. These circumstances will perhaps in some degree excuse the many, and to the writer best known, deficiencies of this preliminary account. I have divided this work into three divisions—1st, language and literature; 2nd, religion, worship and cremation; 3rd, castes and royal races. With this is given a short description of the Balinese calendar, and, as illustrative of the lithographed manuscript *Wretta-Santyaya*, an enumeration of the Kawí-Metra.

In the *Tijdschrift voor Neerlands-Indie* 9.3.340, an explanation from the Sanscrit is given of the name Bali in the paper "*Usana Bai*":—subsequently the title of a work, *Bali Sangraha*, became known to the writer. This work, which however appears no longer to exist, was presented by a pandita to one of the Kings of Bali. The name is explained thus,—*Bali*=*wis-esa*, *sangraha*=*kumpulan*. Following the Indian manner of composition, where the word in the oblique case is placed before that in the nominative, it is to be explained thus,—*The gathering of the excellent* (heroes.) With this the Sanscrit *sanggreh* entirely agrees. Bali is then not to be considered as "offering," but as the nominative of the theme *balin*, a strong person, powerful, a hero. The name *Bali* signifies thus a hero, and the name of the

† It will appear in Dutch in a forthcoming volume of the Transactions of the Batavian Society, but Mr Freidrich's kindness in sending us proof sheets enables us to give it without waiting for the publication of that volume.

country given in Usana-Bali, *Bali Angka*, "the shoot of heroes," is a very beautiful denomination of the holy land, and one which expresses the bold spirit of the nation.

Crawfurd and Raffles first drew attention to the great importance of Bali in a religious and scientific respect. After their time little progress was made towards a knowledge of the island, and we have considered the Balinese, from their wanting that courtesy which the Javanese exhibit (which however only shows their submissive character) as a rude uncivilized people, from the knowledge of whom not much was to be expected. We cannot indeed say that the *whole population of Bali*, in arts, (wherein they clearly are behind,) or in science, stand above the Javanese, but the priests bring before our eye the stage at which they stood before the introduction of Mahomedanism on Java. They are also the only remaining preservers of the old literature and religion. To them must every one repair who desires the elucidation of the Kawi. They are the expounders of all laws and institutions; and of the knowledge of antiquity they have scarcely lost or forgotten any thing from their faithful adherence to traditions.

In the expression of Javanese and Sanscrit letters by Dutch letters we have used the French-Dutch system, which, particularly as concerns the palatal letters, comes nearest to the real pronunciation of the inhabitants of Java and Bali.

Should circumstances permit, the writer hopes, after some time, to follow up this preliminary account by an extended work on this remarkable island.

LANGUAGE AND LITERATURE.

The language of Bali, like that of Java, is divided into a High and a Low, the first being spoken by the lower to the higher orders, and the last by the higher to the lower. The *High Language* is nearly pure Javanese, but it does not entirely agree with the present High Javanese. It possesses many words which now belong to the Low Tongue of Java, while other High Javanese words cannot be used in it without giving offence. It is thus easy for a Javanese to understand the High Language of Bali, but he is not able to speak it with purity. The Low Tongue, on the other hand, has very little in common with the Javanese, and it agrees more with the Malayan and Sundanese, so that it is easily learned by men from western Java. This language is that of the original inhabitants of Bali before the arrival

of the Javanese. It has naturally undergone some changes, but in general we find in it a rude Polynesian dialect, which, by the recognized relationship of all these languages, agrees most with the least polished dialects, the Sundanese and original Malay; while it is far behind, and greatly differs from, the polished language of Java, which, in the course of more than a thousand years, has been brought to its present refinement. On Bali for four hundred years there were yet savages or half savages without a finely elaborated language. The same we may suppose to have been the case with the Malays before the reception of Mahomedanism, and with the Sundanese before the kingdom of Padyadyaim came into existence. From this alone, that is, from the original relationship between all the languages from Sumatra to Bali and further to the east, which was only distinctly preserved where the people remained in a lower stage of civilization, we may explain the agreement between the Low Balinese tongue and the Sundanese and Malayan; an immigration of Sundanese or Malays into Bali is not at all to be thought of. The Javanese conquerors found this language the prevailing one on Bali and could not expel it, and for this reason in particular that the population of Bali was very numerous, and was brought under subjection more by the greater civilization of the Javanese than by the force of arms. The Javanese conquerors preserved as a high language the Javanese which they brought with them; for their intercourse with the people of the land they had to learn the original Polynesian tongue, which alone was spoken by the former, and which to this day has a wider prevalence on Bali than the low language on Java. It is still exceedingly difficult for a common man to express himself intelligibly in the high language; and to speak to each rank of a higher or lower degree with full conformity to the laws of politeness, is an accomplishment which many even of the young princes have not attained. The agreement between the Balinese and the Sundanese does not confine itself to words alone. Both have also only 18 letters, while the Javanese possess 20; these 18 were as much as the Polynesian organ originally required; the second *d* and *t* are properly foreign to these languages, and the distinct pronunciation which the Javanese give to them is not easily discriminated by the ear. Notwithstanding these characters, as well as the capital letters in the writing of the Balinese, are only used to express the corresponding Sanskrit characters *t* (cerebral) and *d* or *dh*,

in the same manner as the *aksara murda* or *g'de*, the capital letters of Cornets de Groot. Further, the Sundanese and Balinese agree in preserving the pure pronunciation of the vowel *a* in all cases, where the Javanese corrupt it to *o* (^o) The *a* is also in these languages as in the Sanskrit, of far greater range and predominance than the other vowels. The only degeneration is to *pepet* *è*, and this may also be considered less as a short *è* than a short ejaculated *â* which is commonly used with a nasal sound following it (*m* or *n* and *ng*.)

The language of Java must originally have possessed a closer relationship to the Balinese. This we conclude principally from the appearance of Malay, and also (following Humboldt I. 198) Tagala words, in the Kawi. At the period when the Kawi formed itself, the Javanese language could not yet have been so refined as it might have been if it had been formed in the course of ages in civilized Hindu states. The Malay words of the Kawi, which do not exhibit themselves in the present Javanese, are original Polynesian, and reveal to us the union which once existed between the languages of Sumatra, western and eastern Java, Bali and probably all the eastern islands, and which chiefly in the eastern or proper Java alone has been obscured by a higher civilization. The influence of the polished Javanese has also, it is true, made itself felt in the Sunda territories, but the high language of those parts is far less developed than that of Java; it probably first began with the establishment of the kingdom of Pajajaren; as on Bali with the arrival of the Javanese. On the last the division into castes operated most, which rendered necessary a subordination in the manner of speaking also. By the Javanese however must the language have been rendered so complicated, since it was developed by them during more than a thousand years. A further knowledge of the languages east of Java will probably still more confirm this position: *the languages of all these islands are dialects differing little from each other, which have departed the less from the original parent the less and the later the people have received Hindu civilization.* Besides the spoken languages we have on Bali the written language; this is in poems, with the exception of the more new, the *Kawi*, and in the sacred writings of the priests, the Sanskrit.

Humboldt (I. 188-203) has written best on the origin of the Kawi language. Some modifications however in the

conclusions of Humboldt must be introduced by the fact that pure Sanskrit writings are still found with the priests on Bali.

Kawi is explained by Humboldt to be "poetical language" (*Kawi* "a poet," *kawya* "a poem.") With this explanation that of the Balinese agrees; they say that *Kawin* or *Kakawin* signifies "to make comparisons," "to speak in comparison." This is the mode in which poetry is formed; comparisons are the ornaments and marks of poetry. The explanation of the Javanese by *Khawi* (strong) scarcely needs to be mentioned. *Khawi* is an Arabic word; first known in Java in the Mahomedan era, and in Bali not at all. How could the Arabs have given the name to a language which they neither produced nor cultivated, but on the contrary have destroyed, because it was the prop of Hinduism and of all the institutions on Java which the Arabs sought to overthrow and cast into oblivion? The Arabs and their followers have succeeded so well, that the *Kawi* no longer exists on Java, and *Kawi* works have nearly disappeared, whilst it has been abundantly and carefully preserved on Bali. The verb *kawin* or *kakawin* has been applied to the words which, under that name, are used by the Balinese in marriage songs, while it reminds us of the Malay *kawin* (to marry). Both words, the Balinese and the Malayan, appear to be referrible to the same Sanskrit word. From *kawya* by the suffixing of the Polynesian *an*, *kawyan* is formed; this, by the contraction of *ya* to *e* commonly (however improperly) used in Java, gives *kawen*, and from this, by a careless pronunciation with the common permutation of *e* and *i*, are formed *kawin* and *kakawin*. This is then at once the Balinese word for "poetry" and the Malay for "to marry," because the marriage songs (*hymenaea*) form a principal part of the festivity, and that which most strikes the ear. Respecting the origin of the *Kawi* language some new ideas must be introduced. The priests do not hold the *Kawi* but the Sanskrit as the sacred language; this language is still found on Bali in the vedas, the Brahmandapurana and other mystic writings (*tutur*.) We cannot therefore agree with Crawford who considered that the *Kawi* was the language of the priests [Crawf. Arch. II, 17, 18.]

The Hindus, and particularly the Hindu-Brahmans who came to Java, brought with them the Sanskrit in their sacred writings, and perhaps also a Prakrit dialect. That they knew and could speak a Prakrit dialect may be concluded from the comparatively late periods of their arrival from

India, which we place at highest 500 years after Christ; at that time however the Sanskrit had been at least 800 years a dead language in India. Against this idea, that they spoke Prakrit, pleads strongly the fact that we do not find a single Prakrit word in the Polynesian languages, that none of the assimilations, contractions and elisions which characterise the Prakrit appear in the Indian words of the Kawi; but it is this very fact which points the way to an explanation of the origin of the Kawi.

In the Sanskrit words on Java and Bali we find corruptions, which have not originated in an Indian mode. To this class belong the contraction of *wa* to *o*, *ya* to *e*, the indistinct pronunciation, and the permutation thence arising, of *u* and *o*, of *i* and *e*; further the permutation of *ra* and *re* (*kérrét*, formerly recognized by me as *ri-vocalis*) which however like the preceding corruption never appears in good Balinese manuscripts. To this class belong also the corruption of the prefix *pra* into *par* and *per*; the omission of the initial *a* in Sanskrit words, for example *nugraha* for *anugraha*, which they interchange with the non-significant initial letter *a* of Javanese verbs. The pronunciation of Anusvara as *ng*, ex. gr. in *ong*, should not be ascribed to a corruption; this pronunciation appears to stand nearest to the unsettled sound of the Indian letters. The change of the Indian *v* to *b* in *Bgasa*, *Balmiki*, *Baruna* is to be considered less as a corruption than as an accommodation of the Sanskrit idiom for the preservation of the vocalic pronunciation. We thus believe that the few changes in Sanskrit words have had their origin in Java, and that not a single Prakrit word has been introduced into the language of that island.

Thus the Hindu immigrants into Java, though they certainly spoke the Prakrit, as we must presume if we consider the time of their arrival, appear to have abandoned that language at once and adopted the dialect of the country. The reason for this must be sought in the circumstance of the Hindus arriving but in small numbers and finding a large population of natives; further, in their being partly Buddhists, the adherents of which creed always adopted the manners and language of the nation to be converted, in the different countries into which they came. By the Buddhists the devotees of Brahma were likewise compelled to yield with regard to language, in order not to irritate the people whom they wished to subject to their own worship and institutions, and to give thereby full play to the Buddhists. Thus Bud-

hists and Bramins lived together in Java on peaceful terms, and the worship of either became not indeed blended, but augmented and modified by the dogmas of the other. We have noticed this already on an earlier occasion when viewing the ruins of Frambanan and Boro Bodo; in the course of this report more distinct proofs will be given of this hypothesis in different places. The Kawi-works are written partly by Sivaïtes, partly by Budhists; both use the same dialect, and the works of both are held in high regard by the people, though the Siva-Brahmins appear to entertain a predilection for the genuine Sivaïtish works.

Those friendly relations appear to be one of the chief causes of the existence of the Kawi language. The introduction of a foreign language was not practicable on account of the Budhists, still the necessity was felt of augmenting the dialect of the country in order to express, in the tracts written for the people, ideas relating to worship and science, for which no terms were then existing. In this way the people became accustomed to a number of Sanskrit words employed by their instructors in religion, and by gradually introducing more and more foreign words, a distinct language was formed, destined exclusively for scriptures and teaching. This language could not of course adopt the inflexion of the Sanskrit, for, in order to understand it, the people ought to have been made acquainted with the entire Sanskrit grammar, which would have been too troublesome with a nation like the Javanese to acquire, and moreover the imparting of it was not for the interest of the priests, whose secret writings, containing unadulterated Sanskrit forms, remained unintelligible for the rest of the people.

The Budhists forming the Kawi without introduction of words from the Prakrit, seems also to prove that their secret writings were contained in the Sanskrit. In Ceylon and the further part of the Indian peninsula the books of the Budhists were composed in Pali (a dialect of the Prakrit); but in China and Tibet in Sanskrit; the promulgation took place earlier in the northern parts than in those towards the south, and for that reason the books were still written in the ancient sacred language of all India. If, therefore the Budhists brought their books to Java composed in the Sanskrit dialect, their introduction must have been comparatively of an old date. It has been observed already that this newly formed dialect was chiefly intended for the converts of the nation, whilst the priests preserved in the Sanskrit the books on worship used by them alone (the

Vedas,) and whatever they wished to keep secret from the people (Brahmandapurana and the Tutors.)

The Kawi contained all those works by which the ideas of worship and the cherished mythology of the priests were communicated to the people. It thus became a sacred language to the people, and the holiness attached itself to all the words, principally however to the Sanskrit, which were rendered conspicuous by capital letters (the aksara g'de or murda). For the priests of Bali this language is that of pleasure ; they always use it for their poetical compositions ; almost every one of them composes a poem of greater or less extent which is communicated to their colleagues or scholars. But the Kawi is not sacred to them ; they greatly distinguish between *Kawi* and *Sloka*. *Sloka* is the usual Epic measure of India, in which at Bali the *Mantṛas* (secret writings) and also the *Vedas* are composed. The name *Sanskṛeta*, as significative of the language, is unknown in Bali. It is not even of a very old date in India having come into use to contradistinguish it from the *Prakṛeta*, the vulgar language. *Sloka* (the measure used in the Epic poems of India) is used at present in Bali as the denomination of the works composed in that measure, the language of which is Sanskrit. Those are sacred and must be kept hidden from the people (*rahasya*.) The Kawi has various epochs ; in the opinion of the Balinese there are three principal ones, viz :

1.—The epoch of *Ayer Langgia* ; in the compositions of his age, according to the Siva Brahmins, the Kawi appears in the most beautiful and oldest form. He reigned in *Kediri* and was one of the ancestors of *Jayabaya*. In his time the worship of Siva seems to have been predominant.

2.—The epoch of *Jayabaya* ; of his time is the *Barata Yudda*, less esteemed than, for instance, the *Wiwaha*, and indeed of a more recent style, also many works of Buddhist authors. His period cannot be ascertained from the Balinese records ; according to them he reigned in *Barata Warsa* (India), but this is the India transferred by the *Barata Yudda* into Java. His period would appear to comprise several dynasties, since so many works are ascribed to him.

3.—The epoch of *Majapahit*, where we meet with still greater admixtures of the vulgar language, and less acquaintance with the riches of the Sanskrit. This period is succeeded by a fourth one, formed by the continued compositions of the priests and some princes on Bali. These, at least the priests, have preserved the knowledge of the Kawi and even augmented it by new Sanskrit expressions, which they take

from the secret writings. From this we are inclined to trace their immigration into Bali and the large stock of knowledge they are still in possession of, to another part of Java, perhaps Kediri, and not to Majapahit. The tale of Siva Bramins having cometo that empire from India shortly before the destruction of Majapahit is altogether unknown in Bali. How is it, moreover, possible that those Brahmins should have acquired so speedily the knowledge of the Kawi and of the native language? The priests of Bali have been in Majapahit, how long is uncertain; but they descended from Kediri, and from thence probably was it that they brought their greater knowledge. These accounts can be brought into accordance with the account in question of the arrival of Siva Brahmins at Majapahit, if we here likewise bear in mind the transfer of Baratawarsa into Java,—Kediri with its king Jayabaya lay in Baratawarsa; Majapahit seems not to have been comprised in it.

The literature of Bali from its nature is divisible into

1.—Sanskrit works with Balinese paraphrase; they include the *Vedas*, the *Brahmandapurana*, and the greatest part of the *Tuturs*.

2—Kawi works : (a) the epics sacred to the people, viz., the *Ramayana*, *Uttarakanda* and the *Parvas* :—(b) the lighter Kawi poetry, as the *Wiwaha*, *Barata Yudha* &c.

3—Javanese-Balinese compositions, written partly in the native measure, (*Kidong*.) such as *Malat*, partly in prose, as the historical narratives *Kenhangrok*, *Rangga Lawe*, *Usana*, *Pamendanga*.

Some of the works in prose, especially the law books, cannot be classed in the third category; they exhibit the ancient language strongly intermixed with Sanskrit, yet they cannot be called Kawi-works, from the absence of measure, and this alone is the characteristic of the Kawi language. From this also the *poetical language* is assured.

To the accents which are used in the writings of Bali (vid. Tijdschrift 9. 3. 254-56) must here be added a sign for the long ú differing from the ordinary Suku, and everywhere used in good manuscripts, where the Sanskrit exhibits the long ú. This long ú is called *Suku ilud*, and according to this, Tijd. 9. 3. page 255 l. 3. is to be corrected; the kêrrêt (ri-vocalis) is called *Gæeng makêrrêt* (*Gæeng* is *chakra*, *makêrrêt*, joined to *kêrrêt*.) The Balinese have very indistinct notions respecting long and short vowels. The long i, with a small point in the common figure is called *ælw mija*; however they, at least the priests, use the long î, the long u, and the tē-

dung as signs for the long â, precisely following the tradition where they must stand according to the Sanscrit.

The priests are also in possession of a work on the euphonic laws, called *Sroyanchana*.

In earlier accounts it has been noticed that in Bali no inscriptions on stone or metal are met with, nor any older characters than the present current writing. This is naturally explained from the letters only having been introduced since the fall of Majapahit or a very little before. Although we met with no modes of writing of a more ancient date, yet in the new writings all the richness is preserved which ever was possessed by the Sanskrit writings in Java. It is only in the Balinese manuscripts that we find preserved with the greatest purity the numerous signs of the Sanskrit, which were superfluous and unpronounceable in the Polynesian idiom. Those who are anxious to have more particular proofs of it, are referred to the lithograph of the Wretta-Sanchaya at the conclusion of this account. Whatever doubt may be entertained of the proper powers of the Sanskrit letters, as they have been received in Java and Bali, will be removed by the examination of the writing of that manuscript, and principally of the numerous Sanscrit words occurring in it; any possible faults will be corrected and excused by those who are conversant with the subject, if they consider the many transcriptions of such manuscripts which are made on Bali, and how easily some corruptions and inaccuracies might find their way into it amongst a small nation, shut out from the source of their civilization, and for 400 years dependent on themselves.

Of the *Metra*, used in the Balinese works, we shall speak hereafter when explaining the lithographed manuscript. In that manuscript are placed only the *Kawi-Metra* taken from the Sanskrit. To these are added the more recent, or perhaps more properly styled, Polynesian *Metra* (Kidung) which are used in pieces of less value, and mentioned by Raffles under the title "*Poetry*." These however stand in little estimation on Bali; whereas all that is written in Kawi measures is considered sacred, and as a guidance for the people. The Kidung-measures properly serve only for the recreation of the people.

SACRED WRITINGS NEWLY DISCOVERED.

The first rank in the Balinese literature, as in that of the Hindus, is occupied by the *Vedas*. According to the communications of the priests, they are not complete on Bali, but only fragments, however, to judge from appearance, tolerably large ones, of all the Indian Vedas, viz., 1, of the *Reg Veda*; 2,

Yajur-Veda (commonly inaccurately spelt *Yayur Veda*); 3, *Sama-Veda*; 4, *Artawa Veda* (a corruption caused merely by the transposition of the *r*, easily explained by the mode of writing the Indian-Balinese *r* above the line; the Indian name is *Atharva-Veda*.) The author of the Vedas is *Bagawan Byasa* (*Vjasa* in *India*.)

The Vedas contain the formulas of prayer as well for the peculiar worship of the Panditas, performed in their houses, as for the feasts, great offerings and cremations of the people, when the Pandita mumble them inwardly. They are a mystery to all except the Brahmins, and the Panditas instruct the younger Brahmins in them in secret. The metre appears to be the epic *Sloka*, as further illustrated in the Art. Metre, and the language a pure Sanskrit. From their being written wholly in Slokas, we may suppose either that the Vedas were brought into that metre in ancient times, and in that form introduced into Java and Bali, or that the knowledge of forming Slokas existed in Java. If the names of the Vedas were not well known, I should rather incline to suppose that they never had been in possession of the genuine Vedas, since in India the metre of the Vedas is guarded by ample commentaries, and must be regarded as an integral and sacred part of those ancient scriptures. The whole of the *Brahmāṇḍapurāna* has been communicated to me on the condition of my not making any uninitiated person acquainted with it. In the same way, I may hope to obtain also further information about the rest of the mystic writings, and about the Vedas themselves.

The Vedas have also been on Java, since the priests of Bali are of Javanese derivation and had their abode in Kediri and Majapahit. Any direct arrival of Brahmins from India is not known on Bali, and even the immigrants into Majapahit, shortly after the destruction of that empire, appear not to have adopted the Vedas of India but of Java, and it is even doubtful whether they arrived directly from India, or only from some other part of Java, since the Panditas know nothing of such an arrival from India, whilst they nevertheless trace their genealogy through Kediri to India. From the tenor of the *Brahmāṇḍapurāna* in Bali we may draw conclusions as to the character of the Vedas. The genuine Indian pieces in the Vedas, which appear to be written in *Slokas*, are probably accompanied by a Balinese or Kawi comment, which after the lapse of some time became necessary even for the priests, in order not to lose the true sense of the original texts.

It is an object of the greatest importance to get possession of the remains of the Vedas in Bali. The religion can only first become thoroughly intelligible by their means ; they further give the standard for the determination of the state of Hinduism, after its introduction into the islands, and, if compared with the antiquities of India, especially through a more intimate knowledge of the history of the Vedas in that country, will be of service in ascertaining the age from which the Indian influence, and the civilisation of Polynesia consequent on it, may be dated. *Suryasewana* (worship of the sun) signifies not only the religion of the priests, but also the book, containing those parts of the Vedas which are used for that worship. I saw the outside of the manuscript ; it contained about 80 lontar leaves. In respect of contents the *Brahmāndapurana* comes nearest to the Vedas ; it is also called shortly *Brahmānda*. We find in India 18 Puranas amongst which is the *Brahmāndapurana*. These 18 are the sacred writings of all the different Indian sects. Six are especially holy to the votaries of Wisnu, six others to those of Siva, and six keep the mean. The more special sects have embraced chiefly one Purana, as representing the abstract of their worship, as the worshippers of Kresna the *Bagawat-purana*. In this way it is easily explained how in Bali the *Brahmāndapurana* only should be in use, and how the Panditas should not have preserved even the slightest recollection of the other seventeen puranas, so little indeed that the names mentioned by me were altogether unknown to them. We find on Bali but one Sivaitish sect, and the adherents of it have acknowledged the *Brahmāndapurana*, perhaps already in India, as the only book of instruction. The Puranas are, as we know, the sacred books of the sectaries, and the priests in India did not trouble themselves much with the sects and their controversies, but adhering to the more purified worship of Veda, held the religion of the other people in contempt. Hence it is that the Puranas in India are chiefly in the hands of the people. In Bali, on the contrary, they are guarded by the priests like the whole of the holy scriptures, and even hid from the people. In Bali every thing relating to worship is in the hands of the priests, and upon the great ignorance of the people in all that is necessary according to the sacred literature for their temporal and celestial happiness, is founded the unlimited power of the priests, who are the organs of Deity for the blindly believing people.

The contents of the *Brahmāndapurana* are : the creation, the ages of the world under the various Manús, the descrip-

tion of the world following the Indian notions, the history of the ancestors of old dynasties, besides mythology and mythic chronology; it is composed by *Bagawan Vyasa* (the holy Vyasa) He is also known in India as the author of the *Vedas*, of all the *Puranas* and of the *Mahabharata*; his name signifies *composition*, and Prof Lassen is of opinion, that we have nothing to look for in his person but for a *recension* of those holy writings (in what period did this take place?) It is worthy of remark however that on Bali he (as the compiler of the said works,) as well as *Walmiki*, author of the *Ramayana*, are known, since from this we may complete the traditions from India.

The *Brahmāndapurana* is written in *Slokas* like the Indian *Puranas*. It is only to be lamented that we cannot get possession of the Indian *Brahmāndapurana*; a comparison of both of them would furnish us with a large amount of revelations on the progress of the literature, as well as on the relation of the Balinese worship to the original Indian one. The *Slokas* seldom follow each other unbroken; generally we meet with only a fourth or the half of a *Sloka*, followed by an extended paraphrase in the Balinese language. Under the head of Religion we shall give a few examples.

EPIC POETRY.

Ramayana. This is the oldest Indian epos, composed by *Walmiki*, who is also in Bali acknowledged as the author of it. Here however exists a Javanese elaboration by *M'poe Raja Kusuma*, also called *Jogiswara* or prince of the penitents, father of *M'poe (Hempu) Tanakung* and of another poet *M'pu D'Armaja* composer of the *Smaradahan*. The language is a pure *Kawi* with a peculiarly large number of Sanskrit words. The Indian *Ramayana* contains 7 *Kandas*, large divisions, again divided into chapters; in Bali we find no *Kandas*, but the whole narrative of the first *Kanda* is placed together and divided into 25 *Sargas*. The 7th, the *Uttara Kanda* is no part of the narrative, but forms a separate work in Bali, the author of which however is accounted to be the same *Walmiki*. The separation of this *Kanda* from the rest of the *Ramayana*, is a proof that it was introduced from India as a different piece, not forming part of the large work, in favour of which position the contents also speak, the *Uttara Kanda* giving an account of the history of the family of Rama after his death. From this we conclude that in India at the period when the *Ramayana* was communicated to the Javanese, the *Uttara Kanda* was not yet annexed to this work. We likewise do

not find again in the Java-Balinese *Ramayana* the long stories of the Bala Kanda, the history of *Rama* as a child, where Wasista the priest of the house tells him tales of the time of old. Those narratives, partly very beautiful, such as that of the *Sagarides* and the descent of the river-goddess *Ganga* on the earth (vgl. A. W. von Schlegel's *Indian Bibliotheca*), are episodes not forming part of the *Rama*: they have however so many charms, especially for a people like the Javanese and Balinese, who take every story for truth, that the absence of those tales in the Java-Balinese *Ramayana* is surprising. We ascribe the absence of those tales to the same reasons as the separation of the Utara Kanda from the *Ramayana*. At the time when the *Ramayana* found its way into Java, it was in India not yet so voluminous as at present, and comprised exclusively the history of *Rama*. As to the *Mahabharata*, it has long since been discovered by European scholars from the contents, and the form of different parts, that in this work as it at present exists, we have before us a conglomerate of Indian myths, which have been interpolated partly in recent times. The same seems to be the case with the *Ramayana*, though the interpolations are not met with so repeatedly, and spread through the whole work. For a careful critical comparison of the Indian *Ramayana* with that of Bali I am at present in want of an edition of the Indian one. In Java up to this time there is only known a Javanese elaboration of the Kawi composition, the *Romo*; this is far behind the Balinese *Kawi* work both in language and style, and is looked upon by the Balinese as a corruption. The *Romo* probably was not composed until the Mohamedan era, and probably when, on the cooling of the religious zeal, the beautiful ancient literature was recollected, but the knowledge of the Kawi forgotten.

I had borrowed a good manuscript of the *Ramayana* from the highest and most learned priest in *Badong*, the *Padanda Made ALENG KACHENG* in *Taman Intaran*. It contains the *Ramayana* complete on 210 lontar-leaves, and is written very fairly, with great care in the use of the uncommon signs and attention to the euphonic laws. Of this manuscript the last leaf with the signature is wanting, so that it cannot be ascertained how old it is. For my use the little that was deficient has been transcribed from the text of another manuscript. This latter was written in the year (of *Saka*) 1693, corresponding to the year of Christ 1771; and on *Bali* in *Bandhanapura* (the Sanskrit name of *Badong*.) *Badong* signifies as well the small kingdom of that name, as the resi-

dences of the princes of Badong, situated at no great distance from each other. We may translate *Bandhmapura*, "the town of union" or "the united palaces of the princes," *pura* meaning a town and a royal palace. The Balinese word *badong* has also the same meaning. It is written with *alpa-sūstra* (small letters); which makes us think of capital (Kawi and Sanskrit) letters. The usual Balinese letters may indeed be said to be small ones (*alpā*) if compared with old writings still existing in Java. However we find no other letters in Bali than the common recent current writing, and even the learned priests have lost every recollection of more ancient letters. Inscriptions on stone (as noticed already) are not found, and the letters of the Sanscrit shown by me to them, were perfectly unknown to them. We can thus make nothing more of *alpasasthat* than that the writer humbly acknowledges that he makes use of the *imperfect* letters, since the want of greater knowledge does not permit him to write better and more correctly.

The last words contain an invocation of the Deity, and we find them with slight variations at the end of several manuscripts; they are pure Sanskrit, and correspond to the invocations at the beginning of Sanskrit works: *Sidir astu, tatastu ong Saraswati namah, ong l'mung Ganapataye namah, ong sri Gurubyo namah,* "be this the accomplishment, be it thus (?): *Ong* adoration to *Saraswati*. *Ong* adoration to *Ganapati*, *Ong* to the gurus adoration!" The word *l'mung* is not very clear and no Sanscrit. The invocation of *tat-astu* (let this be) appears also superfluous; if we explain it by *tatha astu* (may it be), the sense becomes no better; *Saraswati* is the goddess of letters, the consort of *Brahma*; In every Balinese year she has a *feast*, where the collected manuscripts are brought forth and consecrated in the temple. *Ganapati* or *Ganisa*, the son of *Siva* and *Parvati* is the god of arts and cunning, the Indian Mercury. His cunning is invoked in India as well as on Bali, in order to overcome the obstacles, which are likely to be met with in the composition of an important work. The *gurus* are on earth the parents and spiritual teaches; here however are meant the *celestial gurus*, the *Pitaras*, or "spirits of the departed members of the family," who receive a daily worship.

The *Ramayana* is divided into 25 *sargas* or chapters. It begins with the incarnation of the god Vishnu in the family of the king *Dāsarata* of Ayoja (the present Oude); he becomes the son of *Dasarata* by his wife *Kosaya* (Sanskrit *Kausalya*); his half brothers are *Barata* of *Kekaya* and *Laksmana* of *Sumitra*. His teacher is the *Muni Wasista*,

who instructs him above all in the *Danurveda* "the art of arms." At an early age, the pious king *Wiswamitra*, of the *rajarsis*, royal *resi*, (vid. the *Rajarsis* in Bali, his successors) when he was recognized as an incarnation of *Visnu*, invoked his aid to deliver his hermitage from the *Raksasas* who had made war against it. This he accomplished and bent the bow of *Parasu Rama*. From this the tale turns to his nuptials with the fair *Sita*, and to the intrigues of his stepmother *Kekayi*, who forms the design to raise her son to the throne. After that he voluntarily retires into a hermitage, and subsequently into the forest of *Dandaka*, accompanied by *Sita*, and *Laksmāna*. *Laksmāna* mutilates the *Raksasin Surpanaka* who wooed for his love, and by this excites the hatred of *Rawana*, the prince of *Langka* (Ceylon) and brother to *Surpanaka*, against *Rama* and his companions. *Rawana* ravishes the beautiful *Sita* and *Rama* seeks for her in vain. He makes an alliance with the monkey-king *Sugriva*, and his relative the swift *Hanuman*. *Hanuman* discovers the hidden spot where *Sita* was concealed, and then begins the war of *Rama* and his monkey-warriors against the *Raksasas* of *Langkapura*. A large part of the work is filled with instructive conversations between the monkey-princes and *Rama*, and their relations, especially between *Wibisana*, the brother of *Rawana*, and the latter. Finally *Rawana* is slain by *Rama*, who with his supernatural weapon *chakra* cuts off his 10 heads. *Sita* is purified by *Agni* (the god of the fire) and disappears in mother earth. *Rama* becomes king of *Ayoja*, and retires in old age to the forest hermitage, where he dies.

The *Ramayana* and the *Parvas* are to the Balinese a sort of pattern for princes. The *adut* of the princes of the first caste as well of the second, is contained in those works, holy to them, whilst the *Vedas* and other secret writings furnish the rules for the Brahmins. The princes and the chiefs of Bali are to regulate their lives in accordance with the Epic writings, and as long as they do so peace and quietness shall prevail and augment in the country. In the present time, however, many princes are charged with indifference to the sacred precepts, and with being thereby the cause of the diminution of the fortune and prosperity of Bali.

A virtuous prince, before undertaking the smallest matter, examines first the conduct of the old *Xatriyas* and demigods, as it is described in the ancient holy literature. The conduct of those ancient heroes is permanently in the recollection of the princes of to-day, in order to regulate their actions according to the holy patterns, wherever they may find

themselves.

A king is to have the accomplishments of the 8 gods of the points of the compass, viz. *Indra, Yama, Surya, Chandra, Anila, Kuvera, Baruna, Agni* (according to Ramayana, lontar-leaf 181)

Uttarakānda. This, as we have seen, is the last [7th] division of the Indian *Ramayana*. The author is likewise *Balmiki (Walmiki)* Up to this time I have not got it into my hands; it is however the history of the brothers of Rama, and contains also stories altogether unconnected with the family of Rama. A more recent Kawi work is the *Arjuna-Widaja*, which borrows its subject from the *Uttarakānda*; of which hereafter. *Kanda*, (compare the *Kanda* of Raffles I. page 373 et seq) *division* in India, is used in Bali like *Parva* for all sacred writings; those Kawi works however, whose name is *Kanda* and *Parva*, are chiefly destined for the princes and nobles of the 2nd and 3rd caste in Bali, whilst the works written in *Slokas* are holy to the priests and Brahmans. The *Ramayana* and the *Parvas* (of the *Mahābhārata*) have not been long known to the whole people; they were a secret of the priests and chiefs, and contain rules for the latter in their government and for every action during their temporal life. In every undertaking and in every event, persons of rank are bound to conduct themselves in accordance with the precepts contained in those works. Contempt or indifference in following those sacred writings would bring disaster on princes and people, and the entire happiness of the country is indissolubly dependent on the imitation of those holy works.

Parvas (of the *Mahābhārata*). The Second great Indian epos is the *Mahābhārata*, composed by the *Muni Wyasa* (Bal. *Byasa*.) The name of *Mahabharata* is not known on Bali, but its 18 divisions or *Parvas* are known. The names of those eighteen are correct. Six exist entire and two are incomplete. From the name of *Mahabharata* being unknown, it would appear that this work at the time it was brought from India to Java, did not bear this name nor perhaps any general name at all, but that its divisions were already regarded as sacred writings. In that case the name *Mahābhārata* is only applicable to a small part of the whole work, since the war of the Bharater, that is of the Pandawas and Kurus occupies not more than 20,000 *Slokas*, whereas the whole work contains above 100,000. The rest consists of interpolated narratives of various descriptions, which as occasion admits, are inserted loosely or annexed. How much the Balinese

Parvas did contain of the Indian ones, it is impossible for me to decide, without being in possession of the Indian *Mahābhārata*; the pieces contained in them stand however in high esteem and are faithfully copied. They have:

- | | |
|---------------------------|-----------------------------|
| 1 <i>Adiparva</i> | 6 <i>Swarga-Rāwanaparva</i> |
| 2 <i>Virāṭaparva</i> | and parts of |
| 3 <i>Bismaparva</i> | 7 <i>Ujega Parva</i> and |
| 4 <i>Masulaparva</i> | 8 <i>Asrama-wisaparva</i> |
| 5 <i>Prastantikaparva</i> | |

The names of the remaining ten they give as follows:

- | | |
|-------------------------|----------------------------------|
| 9 <i>Saba Parva</i> | 14 <i>Gada Parva</i> |
| 10 <i>Arunaka Parva</i> | 15 <i>Swatama Parva</i> |
| 11 <i>Drona Parva</i> | 16 <i>Soytika Parva</i> |
| 12 <i>Karna Parva</i> | 17 <i>Stripalapa Parva</i> |
| 13 <i>Salva Parva</i> | 18 <i>Asvamedayojnya Parva</i> * |

Along with them they mentioned also the *Santika-parva*, although they expressly said there existed no more than 18 *Parvas*; it can therefore be nothing but another name for one of the above 18 *Parvas*. *Vyasa*, the author, whom we have already mentioned in speaking of the *Brahmandapura-na*, is the son of *Parasara*, the grandson of *Sakri*, who is the son of *Wasista*, the domestic priest in Ayoja, teacher of *Rama*, & supposed progenitor of one of the most distinguished castes of the Brahmins. This family was nearly extirpated through *Sakri*, the son of *Vasista*, being devoured by one of the *Raksasas*. *Vasista* was ready to immolate himself by the flames, but was prevented on hearing from out of the womb of the mother, the cries of his grandson, who afterwards was called *Parasara*. He then resolved to spare his life for the education of the child. Upon this he performed his domestic worship, and whilst muttering the *Veda* a fire broke out, into which all the *Raksasas* were drawn down by an irresistible force and destroyed. This furnished the subject of a painting in the private temple of the *rājā* Kassiman of Gunong Rata, where we see the holy *Wasista* performing his worship in the manner still observed to-day by the *Panditas*, and hosts of *Raksasas*, by the power of his words, falling into the self-existent fire.

The Balinese maintain that the family of *Wasista* lived in *Baratawarsa* (the eldest holy name of the Brahmanical India, which however comprised only a part of the valley of the

* These are especially the works whose deficiency the Brahmins, who spoke with Crawford, regretted. They requested me to communicate them to them, which I complied with as far as my pieces extended to, with the promise to provide also the large remaining part. The Indian books themselves are of no use to them, since they do not know the writing. I was thus obliged to dictate them word by word.

Ganges between *Ganga* and *Jamuna*.) Vyasa, the writer, is also called *Hempu* or *Mpu Jogiswara*. This is a name of frequent occurrence, and signifies even the highest divinity *Siva*. It is however explainable by a saint or *Padunda* who retires from the world becoming united with the Deity when he is called even *Siva*. In a certain sense, the Deity is himself the author of all the holy scriptures, since he enters into the composer and speaks and acts by him.

The *Bismaparva* contains 102 lontar leaves. The *Adiparva* is nearly of the same size. The *Prastanika-parva*, which I saw, contained only 16 lontar leaves, but was not complete. The names are all Indian ones with the exception of *Swatamaparva*, which seems to be a corruption of *Asvathama parva*, thus called after a hero of the *Mahābhārata*, a son of Drona. *Stripalapaparva* is named in the Sanscrit only *Striparva*; *palapa* seems to be formed in the Polynesian manner from *alapa* (harangue.) The language of the *Parvas* is, like that of the *Ramayana*, pure *Kawi*, & more difficult to be understood than the other important *Kawi*-works. In addition we have a *Kapiparva*, containing the history of *ugriva*, *Hanuman* and their ancestors in the monkey-dynasty. There exists also the *Chantaka* or *Ketākā-Pārva*; this is a sort of dictionary, where all the synonyms are classed together after the manner of the Javanese *dasanama*; it is compiled by Kavidasi, the follower of Vyasa; it commences with the numerous denominations of the gods, and is for that reason of great importance for the mythology: It is however written in prose, and like the *Kāwiparva* strongly separated from the 18 holy *Parvas*. An *Agasti* (or *Anggasti*) *Parva* came also to my knowledge, in which the holy *Agasti* (the star *Canopus*) and leader of *Rama* in his campaign against the south of India, gives instruction to his son *Dradasya*; this work is not to be confounded with the *Parvas* of the *Mahābhārata*.

To the ancient Indian literature pertain further the books of the laws, especially that of Manu. The Balinese law books are likewise drawn from them, although they are written neither in *Slokas* nor in *Kawi*, and we shall therefore speak of them after the *Kawi* literature. The original law book of *Manu*, *Mānava-dharma-sāstra* is not known in Bali either by that name or by that of *Menawa Sāstra* (as the name should be on Bali according to Raffles I. 391.) *Prabu Manu*, however is mentioned as the founder of the law, and the Indian origin of the Balinese law and law books is thus certain. The *Purvādigama* or *Siva Sāsana*, especially, is said to have *Manu* for its author. (Vide, infra)

(To be Continued.)

MR BURNS' TRAVELS IN THE INTERIOR OF BORNEO PROPER.

WE have great satisfaction in presenting to our readers the first authentic account that has been given of the greatest aboriginal people of Borneo Proper—the Káyáns. Our readers are probably familiar with the name from its frequent occurrence in the works of Captains Keppel and Mundy and Mr Low, the last of whom has collected many more details respecting this people than are to be found in the previous notices by Mr Hunt, Mr Dalton, and others, which appeared in the *Batavian Transactions* and the *Singapore Chronicle*. All that we have hitherto known however has been from hearsay, no European having visited the country of the Káyáns until last year, when Mr Burns formed the determination of ascertaining, by personal observation, what its productions and capabilities were, and how far the character of the people invited or opposed intercourse with Europeans. Under the prevailing belief that Borneo Proper was subject to the Sultan of Bruni, Mr Burns repaired to that town, where he obtained the Sultan's permission to ascend the rivers leading into the Káyán country. Mr Burns first ascended the Tatau river, the mouth of which is about 10 miles south-west of that of the Bintulu. This occupied seven days, and in the upper part Mr Burns found Káyáns. Returning to the coast he next ascended the Baliaian, which is about 10 miles further to the south-west. Having explored this river he entered the Bintulu. Fifty miles from its mouth he arrived at the first Káyán village, named Taban, where the river bifurcates. Mr Burns first followed the northern branch to within a short distance of the Káyáns of Baram, and then, returning to Taban, proceeded up the other branch in an easterly direction for two days, when he reached its source, and next morning struck off through the jungle, still to the eastward. At night he found himself on the Balaga, a large tributary of the great river Rajang. Two days more carried him to its confluence with the Rajang, where the large village of Balaga, the residence of the chief Lasa Kalan, is situated. Mr Burns ascended the Rajang above this village for two days, and afterwards proceeded down the river to the villages of Bungan, Longpela, Palaran and Langkoko, which last is the residence of the chief Akam Knipa. Descending below the Great Rapids of the Rajang, he arrived at the village of Tanjong, and finally, going on to the Palawi, a

feeder of the Kajang, he was enabled to reach the Tatau, by which he proceeded to the coast. Including the period occupied in travelling Mr Burns was altogether three months amongst the Káyáns, and six months in their vicinity. We shall not anticipate any part of his description of the race, and close this notice of his journey by remarking that the various aboriginal tribes on the southern rivers of Borneo, appear to be all nearly related and distinguished in many respects from the Dáyaks of the west and north-west coasts. The tribes visited by Mr Burns appear to be off shoots from one of the most eastern branches of this numerous people, who occupy by far the greater part of the island. The name is identical with that of the principal branch, formerly noticed by us*, who occupy the great river Kaháyan from the southern coast of Borneo to the mountains behind Berneo Proper.

Mr Burns is the first European who has ventured to explore the interior of Borneo Proper. We hope his success will lead to an equally complete examination of other portions of the island, and that authentic information will soon supersede the hearsay and exaggeration which compose too much of our present accounts of Borneo. All difficulties, real as well imaginary, in the way of research in the Archipelago, vanish before an enterprising and indefatigable spirit like that which has enabled Mr Burr - to explore the country of the Káyáns, without any assistance or protection from either the English colonial governments or the Sultan of Borneo, for the authority of the latter is, as he found, totally disowned by the Káyán chiefs.

* Journ. Ind. Arch. Vol. II p. 856;

THE KAYANS OF THE NORTH-WEST OF BORNEO.

By ROBERT BURNS, Esq.

THIS people inhabit the interior of the country, comprised between the mouths of the rivers Baram and Rajang. These, with the smaller ones intervening, are the only rivers by which the Káyáns have egress to the sea from the north-west division of the Island. Their boundary and high road, southward from the Rajang, is marked by the Jinian river, which is the main tributary of the former. Their confluence takes place above the town of Siriky, and thence the Jinian traverses the country angularly, to near the head of the Kapwas branch of the Pontianak river, in the vicinity of which its source is. Northward, the Káyáns have latterly made conquest of the upper parts of the river Bruni, to within two days' journey (about forty miles) of the city of that name, driving down before them the fugitive Murnts or Dyaks, greatly to the alarm of the lieges of his Highness the Sultan. Thirty miles inland from the coast, the greater portion of the country is low, and densely covered with forests, but generally not swampy. After this it becomes very mountainous, and rises most irregularly in ridges to the centre of the Island, about which is the situation of the great mountain of Tibang, said to be exceedingly high, and from or in the vicinity of which, rise the majority of the great rivers of the Island, namely the Káyán or Tidán, flowing eastward and falling into the Straits of Macassar, the Coti flowing to the south-east, the Banjar to the south, the Pontianak to the south-west, and lastly the Rajang, which though little spoken of by writers on Borneo, is the finest river that flows to the north-west coast, and perhaps the largest on the Island. It has six outlets, the principal of which, called the Rajang, is the most important, being easy of entrance, and having sufficient water for the largest vessels. On the bar, at low water, there is a depth of three fathoms, with a rise and fall of ten feet, and inside a depth of from eight to ten fathoms. It is navigable as far as the influence of the tide, which flows to the foot of the Great Rapids, a distance of from ninety to an hundred miles. The Rapids are fully two miles in length, and are formed by the river passing between two ridges of hills. Their ascent is attended with much difficulty and danger, from the many rocks and Islands, over and around which the river rushes with fearful velocity. This will present an almost insurmountable hindrance to the development of the vast magazines of coal and iron found above. From the Great Rapids to Balaga, a distance of

about sixty miles, the river's course is north-east, bounding the semicircular range of hills from which the Bintulu, Tatau, and all the rivers between the Rajang and the Baram have their sources. From Balaga the Rajang traverses the country eastward, and the Káyáns, by following its course, arrive at the great central mountain of Tibang, and thence by a journey of five or six days on land reach the rivers Tidang, Coti and Banjar, according to choice. The Bugis people of the Coti, also take the same route on their trading excursions to the Káyáns of the north-west. On this coast the Baram is the next river of importance inhabited by the Káyáns, more so however from the amount and value of its produce, than for its navigable qualities, the bar at its mouth having only about ten feet in depth at high water. Of the other rivers, Bintulu, Tatau, Balinian and Muka, the former, in latitude $30^{\circ} 13' 30''$ north, and longitude $113^{\circ} 3' 15''$ east is the deepest, having at high water from twelve to fourteen feet in depth on the bar.

Of the wild animals inhabiting this part of the highlands of Borneo, the rhinoceros is the largest, and is found about the upper parts of the Rajang, where also the largest species of orang utan is said to exist. In many parts of the hilly country the leopard and bear, of a small description, abound and the wild hog and deer are plentiful in all parts. The goat also is found in a wild state. In the Káyán language there is no name for the lion, elephant, horse, cow, and many other well-known animals, but there is a proper name for the Tiger, which animal the Káyáns describe as being of a large size, and which they persist in saying does exist in several districts of the interior. In the interior of Rajang the two species of monkey which produce the *Bátu Nakit* or Bezoar stone abound. One is a large black monkey, with a long tail, called nakit. The other is large and red but has no tail, and is called basi. The bezars are found in the stomachs of these two kinds, but not in all of them, as sometimes from ten to twenty are killed without obtaining it. The bezoar, if not quickly extracted after the animal is killed, is said to be of inferior size and quality.

The configuration of the country does not vary more than do its human inhabitants. Besides the mongrel Malays of the coast, there are eleven other tribes located between them and the Káyáns, namely the Kanawit, Bakatan, Lugat, Tan-yong, Tatau, Balinian, Puan, Sakapan, Kajaman, Bintulu and Tilian—the majority of whom are tributary to the Káyán. The six first mentioned are all more or less tattooed, both male and female, and certainly have all sprung from the one called

Kanawit, who, in habits, closely assimilate to the Dyaks of all Saribus whose neighbours they are. The tribes Punan, Sakapan and Kajanan are the chief collectors of camphor and bird's nests. They are next in locality to the Káyáns, with whom they partially agree in customs, especially in that of the disposal of the dead. Those only of Bintulu and Tilian adopt the Malay saluar as an article of dress, but are not Islamites; all their dialects widely differ, but are easily traced to a common origin. Their numbers average from about five to six hundred each tribe. Of the above named tribes the Bakatan and Lugat are the most predatory and mischievous. Gipsy-like, having no settled abode, they roam at will through the jungle, subsisting on its produce, and on what they procure by theft from the other tribes. They are the slave merchants of the country, stealing the members of one tribe to sell them to the next. They are elaborately tattooed from head to foot, and are the chief manufacturers of the sumpitan, the boring of which by a skilful hand is performed in a day. The instrument used is a cold iron rod, one end of which is chisel pointed, and the other round. The Bakatans are said to excel all the other tribes in preparing the poisoned arrows. The head hunting mania, so extravagantly spoken of by Sarawak historians, does not exist among the Káyán people, nor are the heads of their enemies more valued by them than were such trophies by the warriors of Europe during the reign of feudalism, and heads if taken in battle are merely considered as trophies as were scalps by the North American Indians. That we have heard so much of the imputed horrors of head-hunting, and still know so little of the people of the interior of Borneo, might be accounted for by their having been maligned by foreigners, by the atrocious Malays of the coast, who have described them as being savage headhunters and cannibals, and also by a German missionary who has slanderously reported them as being in part a nation of prostitutes. The object of the Malays is obvious, as they mainly derive their subsistence by cozening the people of the interior of their industriously collected produce, and know that were Europeans to have intercourse with the interior their trade would decline, but it is not so easy a matter to comprehend the intention of the German missionary, in making so notoriously unfounded a report.*

* We presume Mr Burns alludes to what is stated by Mr Low, we believe on the unexceptionable authority of Mr Hupé, respecting the aborigines on the river Banjar. Mr Low says, "I cannot imagine these observations," which accuse them of worse than female prostitution, "to be correct," but on referring to the passage (Sarawak, p. 326) we find that a most accurate and trust-

Regarding the population of Borneo, if the amount and mode of cultivation practised throughout, be taken as a criterion, the Island must be very thinly inhabited indeed, and further, if the interior of the other divisions of the Island be not much more populous than that of the north-western (which is unlikely,) the entire population of Borneo must fall far short of the surmises and highly exaggerated accounts already published. Of the Káyans of the north-west, there are two grand divisions, the Belawi or Rajang and the Talang Husan or Baram. Occupying an immense district, the inhabitants of the Rajang division do not exceed seven thousand in number, and those of the Baram amount to about ten thousand. These districts are ruled by hereditary chiefs, for whom the people have great reverence. In the Rajang district there are three principal chiefs, namely, Knipa Batu, Lasa Kulan, and Akam Knipa. Knipa Batu is a chief of considerable power and influence; he rules the lower districts of the river. His residence is situated above the Great Rapids, and is strongly barricadoed round with thick planks, in front of which are placed an old iron six-pounder, two brass Dutch-made two pounders, and upwards of twenty brass *lelas* of different sizes. At the house of the chief, Batu Dian, which is about ten miles further up, there are also fifteen guns similar to the above. The majority of these guns were captured during the wars with the people of the coast. The house of the first mentioned chief was the only one in which I found human skulls preserved. Both the chiefs in question told me that in the houses they previously occupied there were accumulated upwards of four hundred skulls, and on removing to the present houses they caused them all to be thrown into the river. This would shew that the Kayans are not so passionately fond of skulls as to bequeath them as fortunes to their children, as is said of the Dyaks. The skulls which I saw were twenty-four in number, and belonged to the Sakarran and Sarebus Dyaks, who are now the only disturbers of the coast, all other parts from Sarawak to Malludu being quite free from predatory attacks. Lassa Kulan the ruler of the middle districts of the river is also acknowledged the chief of Bintulu, from which town he receives tribute, although the inhabitants are nearly all Mahometans and nominally subjects of the Sultan of Bruni. Balaga the residence of this chief is a pleasantly situated village on the Rajang, at a place where the hills, receding abruptly from the river, form a landscape of

worthy observer, Mr T. Willer, of the Dutch civil service, to whom we lent the book, has added on the margin "*they are correct.*"—Ed.

rare beauty. Cultivation is more extensive at this, than at any of the other villages, on the river; the heavy jungle has disappeared, and the declivities of the hills are planted with sugar-cane, plantains, pine-apples, sweet potatoes, tapioca, tobacco and many other vegetables in use. In the upper part of the Rajang the chief Akam Knipa reigns paramount, having a more extensive district and a greater number of followers; and being, considered the lineal descendant of the great Knipa or Serpent, he is recognized as superior by the other two chiefs. In the Baram district Parran Lijow and Samatu, two of the principal chiefs, are well-disposed as regards trade, and most eager for intercourse with Europeans.

The Káyáns of the north-west say they immigrated to, and made conquest of, the localities which they at present occupy from the river Káyán or Tidun of the charts. Further than this they do not pretend to trace their origin. In stature the Kayans are generally below the standard of Europeans, but robust and strong of body, they have finely arched foreheads with a pleasant expression of countenance, want the nasal flatness so characteristic of the Malay, and in complexion are, if anything, fairer than the latter.

The most prevalent diseases amongst them are fever, fever and ague, rheumatism, dysentery, and small pox. The last mentioned appears amongst them as an epidemic, visiting the country in the course of every twelve to fifteen years, and which carries off vast numbers of every age. It is more dreaded by them than all the other diseases to which they are subject. They also describe a virulent disease which visited their country about twenty years ago, corresponding to the cholera, and through fear of which they left their houses and fled to the jungle. Unless with a few of the chiefs, who have latterly adopted the Malay custom of a plurality of wives, polygamy is not practised amongst the Káyáns. The sexes are about equal in number, and, as in more civilized countries, there is no particular restraint on their social intercourse. Marriage generally takes place at an early age. Amongst the women unchastity would seem to be of rare occurrence. For the crime of adultery death is said to be inflicted on both offenders, by tying stones about their necks and consigning them to the river. The like punishment is inflicted for theft, but strange to say murder is compounded for by the parties concerned. Independent, and possessed of a small degree of refinement of feeling, the Káyán is proud and susceptible of slight or insult, but altogether wants the mean servility of the Malays and other tribes of the coast, to whom they con-

sider themselves superior, and whom collectively they designate by the contemptuous appellation of Kajang. The Dyaks they call Hivan which is also a derisive term. The Káyán men do not tatoo, but many of the higher classes have small figures of stars, beasts, or birds on various parts of their body, chiefly the arms, distinctive of rank. The highest mark is that of having the backs of the hands coloured or tatooed, which is only conferred on the brave in battle. With the women, the arms, from the elbows to the points of the fingers, are beautifully tatooed, as are also the legs from the thighs to a little below the knees, and likewise the upper parts of the feet; and those of very high rank have in addition one or more small spots on the breasts. In tatooing the performer pricks the design or pattern with three needles, and afterwards smokes it with a dammar torch, by which process a beautiful dark-blue is produced; frequently inflammation of a serious nature follows. The operation of tatooing begins when girls are about four or five years of age, at first the hand and feet, and afterwards, previous to arriving at the age of puberty, the other parts are finished. With both sexes while very young, the lobes of the ears are perforated, and large rings of copper, brass or tin inserted, by which that part of the organ is extended commonly from five to seven inches, but frequently more. In women especially, it is considered a mark of beauty to have them extended to the breasts, which is quite common among them. As the loss of her flowing locks to an European belle, so to a Káyán beauty would be the deforming or breaking of her pendant ear lobes. The ear rings are commonly in weight about 20 ounces each pair.

Regarding human sacrifice, the Káyáns strenuously deny the practise at the present day, but it would seem to have been prevalent amongst them formerly, especially on the occasion of the king or principal chief taking possession of a newly built house, and also on the occasion of his death. They acknowledge that an instance of this most revolting custom took place about two years ago, on the occasion of the chief Batu Dian taking possession of his new house. The victim was a Malay slave girl brought from the coast for the avowed purpose, and sold to the chief by a man who was also a Malay. It is said to be contrary to the Káyán custom to sell or sacrifice one of their own nation. In the case alluded to, the unfortunate victim was bled to death, the blood was taken and sprinkled on the pillars and under the house, but the body was thrown into the river. It is the blood only that is prized, or considered efficacious. That blood is

considered to be so by them the following might tend to show. During my stay in the house of the chief Knipa Batu, one of his children, a little boy, was at the point of death from fever. After exhausting all their skill in applying remedies, as a last resource the chief took a young chicken and passed it a number of times over the face of the child, then with his most valued war sword killed it at the window, and threw it upwards from him in the direction of the setting sun. The sword with the blood on it he then held over the face of the child as before, with fervent invocation, desiring that his beloved child might not die, and laying himself down beside the unconscious little sufferer, indulged in the wildest paroxysm of grief. None of the other tribes of the Island seem to practise the strange but not singular custom, of one person becoming the friend or brother of another, by the blood of each being mingled and partaken of mutually, either by drinking, or smoking. By the former mode, Mr Dalton describes his having become the friend of a Káyán chief of the Coti river. Amongst the Kayans of the north-west the ceremony is somewhat different. The following was observed on my initiation into the brotherhood with Lasa Kulan, the chief of Balaga on the Rajang, and of Tubow on the Bintulu river. Two days previous to that on which the bloody affair came off, the great hall of the chief was garnished with the weapons and gaudy skin war dresses of the men, and dashed with a fair sprinkling of the finery of the women kept more for show than use. On the day appointed, a number of the neighbouring chiefs having arrived, several of them commenced proceedings by haranguing on the greatness and power of their own selves, and of all the wonders they had heard of the white people, and of their satisfaction in being visited by one of them, of whom their fathers had heard so much but had never seen. Next a large pig provided for the occasion was killed, the throat-cutting part of the business being performed by one of the fair sex, seemingly with great satisfaction to the attendant crowd of men. Next were brought three jars full of arrack of three sorts, severally made from rice, sugar-cane, and the fruit tampui. In pieces of bambu it was dealt out in profusion to all present, the ladies excepted. On the chief taking a bambu filled with arrack, we repaired to the balcony in front of the house, and stood side by side with our faces towards the river. The chief then announced his intention of becoming the friend or brother of a son of the white man, on which

one of the attending chiefs gave me a small sharp pointed piece of bambu with which I made a slight incision in the right fore-arm of the chief, and the blood drawn was put on a leaf. The chief then with a similar instrument drew blood from my left fore-arm, which was put on the same leaf and mingled with the other. The blood was then mixed with tobacco and made up into a large cigar which we puffed alternately until it was finished, when my new friend delivered himself of a long and eloquent speech invoking the god Tánangan, the sun, moon, and stars, and rivers, the woods and mountains to witness his sincerity. Three times during this declamation he sprinkled the arrack on the ground towards the river. My speech being delivered, several of the principal chiefs present held forth both long and loud enough. We afterwards returned to the hall and the cheering beverage went round more merrily than before, calling forth their good nature and social disposition. Although no toasts were given, still each successive bumper was accompanied by a merry and noisy chorus. The feast came afterwards, and the whole affair was wound up by music and dancing which lasted until about midnight. The varied war dances of the men were amusing, the slow and measured pacing of the women monotonous, but still far from ungraceful.

The custom of drawing omens from the direction of the flight of birds, is common to most of the tribes of Borneo, but with the Káyans it is not connected with their ideas of the deity. The birds that are held as ominous by them are about ten in number. From the flight of the rhinoceros horn-bill they draw omens of success or the reverse in war, and any of the ominous kind flying from the right to the left bank of the river, is considered inauspicious; but the reverse is favourable and a prognostic of success. Journeying on the rivers, should one of the ominous sort cross from the right, they immediately halt, kindle a fire on shore, smoke their leafy cigars and generally wait till a bird, less vindictively inclined, crosses from the opposite direction. If this does not happen, they very often return to the place from which they started. An instance of this I experienced through the whim of a pretty little bird, called Lukut from its being spotted or streaked, taking its flight from the right to the left bank of the river. I was obliged to retrace a considerable distance to the place we slept at the previous night, and recommence our journey on the following morning. On another occasion in descending the upper part of the Tatau river, one of the birds of fate crossed from

the unlucky side; the party instantly halted, went on shore, kindled a fire and had their accustomed smoke over it, but were not disposed to move onward, unless one more favourably disposed towards us, should take its flight from the opposite side; however, on reminding them of their belief that fire is efficacious in appeasing the hate of birds, and that they had observed their usual custom of kindling a fire and smoking, they were prevailed upon to resume an onward course. The next day unfortunately our boat got swamped at a part of the river much obstructed with fallen trees and rocks, the river was rapid and much swollen from heavy rain that fell during the night. The loss of the greater portion of our stock of provisions and other articles vexed my superstitious companions very much, and taking all the blame to themselves, they were most profuse in reflecting on the impropriety of their disregarding the ominous warning of the bird of the previous day. The habitual stillness and solitude observed by them when travelling, the country being thinly inhabited, the highways drear, and the long serpentine rivers dismally wooded to the water's edge, and, excepting the screaming and flight of birds, there being few living objects to break the silence of the jungly labyrinths or attract their attention, all these combined, tend too strongly to the growth of their absurd notions connected with the feathered kind. Another instance of their superstitious propensity I observed, previous to leaving on my return to the coast. The chief Akom Lia with twenty-five of his men, who were appointed by the other chiefs to conduct me, after all preparations for the journey were completed, went and formed a temporary hut about a mile below on the opposite bank of the river, but still within sight of their own houses, and there remained a day and night with eager expectation for a propitious omen for the intended journey, which having obtained they immediately set out, and throughout the journey the confidence inspired at the outset did not fail them. The custom practised in some parts of Europe of raising a cairn or heap of stones over the grave or about the place where a person has been murdered, is also superstitiously observed by the Káyáns. In the vicinity of the paths on which we travelled through the jungle of the interior, I observed several cairns, none of which my Káyán companions would pass without severally adding to the stony heap.

The above cited customs are common to other tribes

of Borneo and also to other countries, but in the extraordinary custom universally adopted by the male Káyáns, they differ from all other tribes of the Archipelago. It is said however that a like custom is practised by some of the inhabitants of the West-coast of South America. On males arriving at the age of puberty or more commonly before marriage, the Utang is adopted and without this marriage does not take place. It consists of a round pin (frequently two or three) of wood, bone, brass or gold, about an eighth of an inch in diameter passed horizontally through the gland of the generative organ, and projects about a quarter of an inch on each side; when more than one is used they are placed transversely. The Utang is adopted through all the divisions of the Káyán tribe, but with its purpose or origin they appear to be unacquainted.*

The Káyán name for God is Tamangan whom they hold to be invisible and supreme, they have no idols nor any apparent representation of the deity, no priests, no castes, nor any ostensible ceremonial system of religion. They implicitly believe in an existence hereafter, though independently of their avowal of such, the practise universally adopted by the tribe of disposing of their dead above the ground proves their belief in the immortality of the soul. Holding these ideas unconnected with the gross superstition and priest craft of the other tribes of the Archipelago, it is well that they have not fallen victims to that pernicious and demoralizing system of delusion, Mahometanism. That they have not is partly, attributable to their dislike and prejudice against the Malays and their religion, but more on account of their great partiality for the flesh of swine, the use of which all the persuasion of the Malays cannot induce them to abandon, and which, though not one of the most pleasing traits of the Káyán character, is certainly one that ministers most to their happiness.

After death the Káyáns very stupidly keep the body in the house from four to eight days and even sometimes longer; generally the first day after death it is put into a coffin, scooped from the trunk of a tree, and carved according to the importance or means of the re-

* The same or a similar custom appears to prevail in Pegu and some other parts of the Indo-Chinese peninsula, as we find it alluded to and variously described by several of the older voyagers. It appears to have originated in a desire to check unnatural crimes and vices, and it is probable that the introduction of all such customs, including that of circumcision itself, was connected with this object, either directly or symbolically.—Ed,

latives. Day and night during the time the body is kept in the house, lights are placed at each side of the coffin, and should they happen to get extinguished it is considered most unfortunate; also during four or five days after the corpse has been removed torches are kept at the place where it lay. Previous to removal, a feast is prepared, and part of the food is placed beside the corpse; the relatives devour the remainder; removal takes place soon after, and, although the body is invariably much decomposed, the nearest relatives, especially women, express their grief in a most inconsolable manner, and, with cries most pitiable, long and affectionately hug the coffin, and with their faces on it inhale the odour, and continue doing so until it reaches the place of disposal, which is in the loft of a small wooden house on posts about 12 feet high. The tombs of the chiefs are built of hard wood supported by nine massive posts from twelve to fourteen feet high, and which with the other parts are elaborately carved. Several articles which belonged to the dead person are conveyed to the tomb with the corpse, but are not deposited with it. On the death of a person the relatives directly lay aside all apparel of foreign manufacture, and wear only a kind of bark cloth instead, for a prescribed number of days after the funeral.

Amongst the Káyáns there are more ceremonies observed at the birth and naming of children than at marriage, the performance of which is not encumbered by many formalities. The man on selecting his bride makes presents to her, and if these are accepted by her parents and others connected, a day is appointed for her removal to the house of her future guardian; but, independent of the presents, it is necessary on the part of the bridegroom to present the bride with a prescribed number of beads of different sorts, which are made into a necklace and worn by her as a badge of wedlock.

The dress of the women consists of an oblong piece of cloth variously ornamented, called Kombong; it is tied by two of the corners about the loins and encompassed by a girdle of beads; it reaches to near the ankles, but leaves part of one of the legs uncovered. The higher classes have generally a second one reaching to the knees and tied on the opposite side. The Malay sarong is also common amongst them. They wear the hair divided in front as European women generally do, and round the head is worn a fillet of yellow bark cloth, scarlet woollen cloth, or any other kind fancied by the wearer. In the house seldom any

thing else than these are worn, but when travelling or doing the work of the field, they wear a tight fitting jacket made from a fine description of bark and also of different sorts of cloth. The men wear the chawat of bark cloth, but more commonly of Europe cotton cloth generally about eighteen feet long. A skull cap formed of rattan variously ornamented, and jackets made of bark or skin, are worn when travelling or in war. In war they fight with a spear, sword and shield. The sumpitan is not a national weapon; nor is it used by them save in killing birds and monkeys. The Kayan youth from any early age practise throwing the spear and the use of the sword. In swimming and wrestling, which are their principal games, they excel.

Both males and females of all classes take part indiscriminately in the labour of the field, for the cultivation of rice, tobacco and various sorts of vegetables in use, but only in sufficient quantities for their own consumption. In preparing and keeping the grounds clear where vegetables are planted, a small kind of hoe is used; but in sowing rice the tedious method of dibbling is universally adopted. Twice in ten months they sow and reap the rice harvest. Their year consists of five months, or the space of time taken to prepare the ground, sow and reap the rice. The Kayans though an emigrating and conquest loving people, are not frequently engaged in petty wars like other tribes in Borneo. They are industrious, and to a degree laboriously so, which is shown by the massive and substantial construction of their houses, which, besides being otherwise strongly built, generally have boarded sides and floors and neatly shingled roofs, and also by their knowledge of manufacturing iron and steel from the native ore. This knowledge must have greatly tended to keep them independent, and superior in power to the other aboriginal tribes of the islands. From the native iron they make their wood cutting implements, spears, swords and many other articles in use. Commonly at every village there is a place for smelting iron, in all the process of which the community mutually partake. Covered by a shed, the rude furnace consists of a circular pit formed in the ground, three feet deep, and about four feet in diameter. Previous to the smelting process the ore is roasted and broken into small pieces. The coals (charcoal) in the furnace being set fire to and well kindled, the prepared ore is then placed on the top with alternate layers of coals. The ventilators used consist of wooden tubes, ten to twelve

in number, about six feet long, and placed vertically round the furnace. The bore of each is about seven inches in diameter, the pistons to correspond are framed of cloth or soft bark. Attached to the piston rods are others of considerable length, to which weights are made fast and balanced on the cross beams of the shed. By this contrivance the pistons are moved up and down, and a constant blast produced, which is led by clay pipes from the orifice at the bottom of each tube into the furnace. In the smelting operation there is no flux used with the ore, which yields about seventy per cent of iron. To make the iron either hard or soft as may be required, different sorts of wood are made use of.

The coal and iron fields of the Balawi or Rajang are more extensive than any yet discovered on the Island. From the river Baram, coal is traced to the upper parts of the Bintulu, and thence southward to the Rajang river, on the left bank of which, at Tujol Nang, there is a seam exposed upwards of thirteen feet in thickness. At different other parts of the river and also in several of its branches coal is found in abundance. From Tujol Nang the strike of the coal is southward across Dragon's plain. It is again found in the river Lang Pila (a distance from the former place of about fifty miles) where it is extensively exposed on the surface, and has been in a state of ignition for several years. Iron ore of a quality yielding from sixty to eighty per cent of iron abounds in the Baluwi or Rajang district, from about forty miles from the coast to the source of the river, or over a district comprising nearly one half of the extreme breadth of the Island. The iron manufactured from the ore of the above district is much preferred to that of Europe by the Malays and other natives of Borneo as being superior. If such be the case it is certainly worthy of notice. If the ore of Borneo, by the rude manner of smelting practised by the Kayans, makes better iron than that of England, with all the advantages possessed by the smelters of that country, we must infer that if the science and superior genius of Englishmen were employed in the preparation of iron from the rich mines of Borneo, this valuable metal could be produced cheaper, and in quantity greater, and quality superior, to that for a scanty supply of which the trade of Great Britain is dependent on the arbitrary monopolies of Sweden.

Mr Burns' Vocabularies of the Káyán and other dialects will be given in our next number.

THE
JOURNAL
OF
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

A JOURNEY IN THE MENANGKABAU STATES OF THE
MALAY PENINSULA.

By the Rev. P. FAVRE, *Missionary Apostolic, Malacca.*

As I was assured by several persons, that a great number of Jákuns were to be found in the Menangkabau states, particularly in Rumbau and Sungey Ujong,* I intended to visit these several states, in order to ascertain the true number of these tribes; and in the meantime to examine the chances of success in establishing a mission amongst them.

I left Malacca on the seventh of July, accompanied by the Rev. Mr Borie. The same day we reached Alorgájá, a village in the province of Naning, near Fort Lismore, where a garrison of a few native soldiers is kept by the honorable Company. We stopped at the Bungalow, where bad weather obliged us to remain until the tenth. We spent these four days in seeking for coolies: it being very difficult to get them; several times we agreed with Malays, but after consideration they refused to follow us; the reason was that the people who are living in the Company's ground being accustomed to the freedom given by British government, they fear much to find themselves in the Malay country,

* The information I had from several parts made the number of the Jákuns of Sungey Ujong only, to amount to seven thousand, this information was erroneous as it will be seen hereafter.

where very little security is found, both from government and from private Malays; however, after we had promised that we would avoid every thing which could offend either the Malay chiefs or their subjects, in all the places we might journey in, two Malays consented to accompany us as guides and coolies.

On the eleventh, at seven o'clock A.M., we left Alorgájá, directing our journey toward Johole, the most south east of the Menangkabau states. The boundaries of that state with the Company's ground, are formed by a line supposed to be drawn from a small mountain called Bukit Pútus, passing by another called Bátáng Málaccá, and terminating at the foot of Mount Ophir. At about eleven we passed the boundaries of the Company's territory a few miles west of Bukit Pútus, and entered a small state called Tamping, from the name of a high mountain. Three chiefs termed Panghúlus rule over this small place. They told me, that they were only dependant on Syed Sábán, formerly chief of Rumbau, now residing at Malacca, though, on the other hand, the actual chief of Rumbau, a few days after, declared the contrary. By about one o'clock we had already crossed Tamping and passed its boundaries with Johole; we continued our journey through the jungle till about three o'clock, when we found ourselves in a most pleasant place, though in the thickest part of the forest. The prospect is not very extended, but is however a beautiful one; there is a small valley in which a fine cascade falling from the next eminence amongst large rocks, offers to the traveller both excellent water to quench his thirst, and one of the finest accommodations to bathe. We rested there about half an hour, and then continued our journey until half past four, when we found ourselves in a large valley in which lies the kingdom of Johole. The whole of the population of that state, which is said to amount to about three thousand souls only, inhabit this valley, which runs nearly in a line from west to east, extending six or seven miles. Several places, where a greater number of houses are found more clustered together, are termed villages. There are five principal villages, viz., Nury, Landang, Iney, Toman and Bennong. Rice is cultivated throughout the valley, which appears very fit for such cultivation; on both sides are the five villages before named, and a few other habitations; the rest of the state is covered with forest and is almost uninhabited.

The village at which we arrived is that of Nury, the ordinary residence of the chief, who is termed Panghúlu. This

dignitary then absent, was about one mile further celebrating the nuptials of some of the nobility of the place. After some difficulty, occasioned by the absence of the chief, we were allowed to take our lodging in a common Malay house, where we passed the night. The next day we were obliged to remain where we were, because not yet having seen the chief, we could not be permitted to visit any place. We spent part of the day in making inquiries; and we were informed that the Jákuns living within the limits of the kingdom were not numerous; two or three places only were mentioned as being frequented by a few families of them.

The second day after our arrival, having previously obtained the necessary licence, we went to meet the king at the wedding; but we encountered him on the road about half way as he was returning home. He is a man of about sixty years of age, his appearance is at first sight prepossessing; he appears respectable, simple and collected in manner. We accompanied him to the palace, which though one of the first buildings in the place, would scarcely be called a house in Europe. In his march he was preceded by a standard similar to that used by Musulmen; and by a great dignitary bearing the royal sword; he was followed by about fifteen men, armed with muskets of several kinds and calibers, and more or less in order, perhaps the greatest part of them would have been put *in remolis* in our European armies.

At the invitation of the sovereign we entered the yard of the palace, and we were soon after introduced into a large verandah where the Court is habitually held. After a few minutes conversation, the chief gave orders to bring our baggage into his house, and allowed us to visit the localities frequented by the Jákuns; we perceived however that such excursions, as well as a long stay in the state would be far from pleasing to him. The Rev. Mr Borie spent a part of the day in visiting the Jákuns, while I was detained at home by a slight indisposition. This circumstance gave me another opportunity of experiencing the unfortunate custom of that nation, in asking every thing which falls under their right. The king himself ceased his repeated demands only after I had given him some miserable dried fishes, and some clothes which he could scarcely use, being made in the European fashion. During the evening I was witness to one of the most remarkable instances of Malay silliness which can be met with. At seven o'clock the king, who a great part of the day had smoked opium, left his place,

and went to the other extremity of the verandah where, as I had remarked in the day-time, a cock was tied with a rope. The king then with his royal hand took the martial animal and brought him to a place where he used to keep his Court, forming a miserable throne. I was near the place, preparing to sleep, when my curiosity was excited by the extraordinary fact which I will now relate. Opium having been prepared, and a pipe, a candle, and all the other necessaries to smoke it, having been brought in, his Majesty began a bombastic discourse, in which he first endeavoured to show the great benefit that is produced by cock fighting, and the remarkable pleasure enjoyed by witnesses of such combats; after which, he remarked that this amusement had much fallen into disuse in his state during the last few years, and this he lamented with sorrow; and finally, opening his mind, he declared that his intention was to restore it in his dominion. This was his purpose in bringing up in his palace and by his own care the handsome cock he had in his hand. The way of preparing this royal cock, in order to make of him a warrior was one not a little curious; this was practised before me in the following manner and accompanied by several superstitions. Having ended his discourse, the king took the head of the cock, passed his beak twice through the flame of the lamp, after which he made the animal walk six or seven steps, which was repeated six or seven times; this preliminary ceremony being ended he dipped his fingers in the oil of the lamp, and rubbed the cock under the wings and upon the back, and then immediately commenced smoking opium; having inhaled the smoke of the drug in the ordinary manner he blew it into the beak, the ears and upon every part of the body of the poor animal, which, though accustomed to that exercise appeared not to take any peculiar pleasure in it. This being finished, the same ceremony began a second and finally a third time, after which the cock was carried carefully to his ordinary place, and left there to pass the night under the influence of opium. The desire I had to sleep on account of my indisposition made me see with satisfaction the end of this tedious ceremony. We were ten persons in the verandah all lying *pele môle*, several were already asleep and I prepared to do the same, when being placed near his Majesty my attention was again excited by a spectacle of a new kind.

A large vase of earth containing lighted charcoal was brought by the great minister of state, and was set before

the king. In the centre of the vase, another of the same kind, containing water, was placed, and in the centre of this was a candlestick with a lighted candle. Near to this were two other but smaller vases, one filled with flattened grains of rice, having the form of small white flowers, the second containing incense. The king, sitting with his legs crossed, began by delivering some formulary which I did not understand, he then made several salutations towards the lighted candle, took incense and poured it upon the fire, threw some of the flattened pieces of rice into the water, took the candle and, turning the flame towards the ground, made several drops of wax fall into the water, and having moved the candle, as if he would form some written characters with it, he placed it again upon the candlestick. All this ceremony was accompanied with the recitation of long formularies, some being delivered in a high voice, some in a low voice. The king spent about one hour in repeating three times over the whole of this ceremony, and finally he took the candle, and put its lighted end into the water, which ended the ceremony. Then his Majesty began again smoking opium until he smoked himself asleep. The next day I asked my Malay coolies the meaning of such superstitious practices; they answered, that this is a Malay physic, and that the king intended to cure his grand child who was dangerously sick, a few minutes further in the valley. They added that such remedies are much used by Malays against every kind of sickness. They appeared themselves to be convinced that the worst sickness cannot withstand it, if the ceremony is faithfully performed. It appears also that the way of bringing up cocks, by smoking opium, is much used by those of the Malays who are fond of cock-fighting.

The inhabitants of Johole appear the most savage Malays I have ever seen, many of them possess a very bad appearance, and I think the place is not secure for Europeans; however the people of the place are very timorous, and the slightest circumstance frightens them. Our arrival caused a great agitation in all the country, and a few hours after a report had already spread abroad, that thirty armed Europeans had arrived in order to take the place. The evening of our arrival and the next day all the state was in motion, and several hundred persons came in order to ascertain for themselves the truth of the report.

We left Johole on the thirteenth. After having walked through paddy fields for about an hour and a half, we

reached the mountains which separate the state of Johore from that of Rumbau: we crossed them between Tamping and Beraga. These mountains, though entirely covered with jungle, present in several places a fine prospect, and offer to the consideration of the traveller several beautiful streams and rivulets carrying a limpid water amongst large stony blocks.

At three o'clock p.m. we found ourselves in the kingdom of Rumbau. This state stretches itself out in an extensive plain, terminated on the south by the Company's territory, on the east by the mountains which bear its name, on the west by Salangore, and on the north by Sungey Ujong. This plain is in great part occupied by paddy fields, and inhabited by nine thousand souls, which is the amount of the whole population of the state. We walked in that plain two hours before we reached the house of the chief termed Panghulu, who resides at a place called Chunbong. We met that dignitary at our entering his house; he is an intelligent looking person of from forty to fifty years old, simple and free in his manners, and seems to be a Malay of good education. We were received by him with remarkable politeness; a servant was at once appointed to attend upon us, and we were abundantly supplied with refreshments.

We had in that place an opportunity of observing the way in which justice is done in Malay countries. The usual hour at which the chief of Rumbau holds his Court and administers justice, is about seven or eight o'clock at night; he fulfils this duty conjointly with the high priest of the state.

On the day of our arrival, about the above mentioned hour, the chief or king went to the extremity of the verandah, to a place arranged somewhat in the fashion of a throne, where he placed himself in the centre; I was near him on his right hand, and the Rev. Mr Borie on his left: the high priest stood outside the throne, and many persons placed themselves in the verandah. We had already spent about an hour in friendly conversation, when there arrived a dignitary of the state termed *orang besar*, *great man*; he was accused of some mischief, (it appears the affair was not of great importance) The two parties, complainant and defendant, made three prostrations, touching the ground with their heads, and came to kiss the hands of the king, after which they went to take their places at some distance before the throne.

They were both very kindly received by the king who appeared to pay great attention to the cause, hearing both parties in silence; he afterwards put several questions to them, and having received their answers he became exceedingly angry; assuredly excited by horror at the mischief; and began to cry out with all the strength of his lungs. The high priest in imitation of him began also to cry out no less high and strongly, so much so that for some time this made such noise and confusion, that I could not understand any thing of what was said by them; while the poor guilty man shewed by his humble countenance, that he received the reprimand with a deep humility.

The whole was ended by condemning the guilty party to pay a fine. As there were no more cases submitted to the Court for that day, our friendly conversation began again, during which the high priest put to us several curious questions; as for instance, speaking of the English East India Company, he asked, "where is Mr Company living?"

As the information we obtained in the house of the chief, as well as in several houses of Rumbau, shewed that the Jákuns there were in very small numbers, and were living far from the place where we were, we proposed to pursue our inquiries further, and to go to Sungey Ujong, another of the Menangkabau states, at a distance of two days walk from Rumbau.

With much pleasure I will mention here, that on the several occasions I stopped at Rumbau, I found the inhabitants very polite, hospitable and entirely inoffensive; they are assuredly the most civilized of all the Malays living outside of the Company's territory; at least according to my knowledge.

On the fourteenth we left Rumbau. After having walked for some time in paddy fields we entered the jungle where we journeyed all the rest of the day; in the evening we stopped at a small hut inhabited by a single man, where we passed the night.

On the fifteenth we reached Sungey Ujong. I have mentioned in another place the particulars of what occurred to us in that state, where we found a good number of Jákuns; I will abstain from repeating here what I have already stated.

From Sungey Ujong we went to Jellabu; this is the most considerable of the Menangkabau states with respect to the extent of the land, but one of the least important as regards the population, which amounts only to the number

of three thousand souls inhabiting a valley which runs from west to east. Great part of the Jellabu territory is mountainous and entirely covered with jungle except the valley above mentioned, and I was told a few other small places where rice is cultivated. The river of Jellabu which falls into that of Pahang begins to be navigable for small boats near the house of the Iang Dipertuan of Jellabu. As this place is distant but two short days walk from the other place where the river of Sungey Ujong is also navigable, it follows, that the easiest way to go from Malacca to Pahang across the Peninsula would be to go from Malacca to Sungey Ujong by the Lingy river, and from Jellabu to Pahang by the Jellabu river; but the journey could not be effected in a shorter time than twelve days, viz., from Malacca to Sungey Ujong six days, from Sungey Ujong to Jellabu two days walk, and from Jellabu to Pahang four or five days; but it is to be remarked that the mountains which separate Jellabu from Sungey Ujong, render the communication between these two states very difficult, and I dare say dangerous, on account both of the steepness of the mountains and meeting with numerous precipices.

The dull sight of the road which presents itself to the traveller when journeying upon these mountains, seems to announce before hand the melancholy prospect of the country which lies behind. The soil of Jellabu is one of the poorest I have met with in the Malayan Peninsula, the valley I have before mentioned is itself barren in many places, and by no means presents an agreeable look. The difficulty of communication between that state and the neighbouring ones renders it entirely solitary; and its great distance both from the sea of Siam, and from the Straits of Malacca, makes its commerce of very little importance; it appears however that some tin mines are worked there, the produce of which finds its way to the Pahang market by the river.

On our arrival at Jellabu we called upon the Iang Dipertuan, commonly named the Sultan.

We could not see him at that moment; several superstitious practices which were then performed, on the occasion of the Sultan's son being sick, prevented our being allowed to enter the premises till the evening. We remarked that all the doors by which the kámpong was entered bore at their upper part a range of lanceolated leaves of a yellowish colour; the object of which, according to the explanation given to us by the Malays, was to prevent the

sickness from entering the Sultan's premises; the fact proved that these barriers were an insufficient guard against sickness; since it has not only entered in spite of these fruitless precautions, but had even attacked so severely the Sultan's son; but in return it was obliged to pay dear for the guilt of its unlawful entrance; several persons from time to time took brooms and struck the air intending to chastise and trying to cast out this obstinate and troublesome guest; long formularies were also delivered, but I could not understand the meaning of them, nor remark exactly the other superstitions which were performed on the occasion. We stood outside preparing and taking our dinner. About six o'clock being called by the Sultan we were admitted to an audience in the verandah; the Mahomedan priest of the place and many other persons were present. The Sultan was dressed in red silk pantaloons laced with gold, and in a baju of a brown colour. After having stated the purpose of our journey we entered into a friendly conversation, which, changing from one topic to another, fell finally upon the Mahomedan religion. Though the Sultan is a disciple of Mahomed he appears to have very little confidence in the supposed prophet; the way in which he ridiculed several Mahomedan laws and customs shows that he pays very little attention to the practices which are so religiously kept by other Malays. The Malay priest appeared to be much dissatisfied with the behaviour of the Sultan on the occasion, though he did not reply by any objection; his silence possibly was the effect of his incapacity, for I remarked in conversation I had with him, that he was a very stupid man. However, I am very far from approving the conduct of the Sultan on that occasion. In my humble opinion when we see our neighbour in error or in what we think error, it is by reasoning, and not by laughing, we must undertake to shew him the truth, and try to draw him away from his error; since experience proves that the contrary way has ordinarily no other effect, but to excite anger, and to increase prejudices, by which his state will become more pitiful.

We passed the night in the place where we had received audience. The next day we inquired about the Jakuns and we saw a few of them. After which, having considered that our provisions both of money, and of victuals were nearly ended, we proposed to return back to Malacca, where we arrived in five days, on the 24th of July, being the eighteenth day after our departure from that place.

A TRANSLATION OF THE KEDDAH ANNALS TERMED
MARONG MAHAWANGSA.*

By Lieut-Col. JAMES LOW, C. M. R. A. S. & M. A. S. B.

CHAPTER III.

IT has been, says our author, already related how Rájá Marong Máháwángsá formed a settlement or *new country* to the east of Pulo Srai, in order that he might either gain information respecting the Prince of Rúm, or get a letter from thence. He had already been here so long that a son was born to him of surpassing beauty and proportions, quite ravishing to all beholders. The country too became daily and yearly more populous, owing to the influx of settlers; while trade with all the [surrounding] nations constantly increased. One day Rájá Máháwángsá was seated in his audience hall at Lankasuka, surrounded by all his officers of state, including the four very old ministers. The Rájá asked of these four old courtiers if there was any powerful country lying near at hand, for, observed his highness, if there be such a country, and should its king have a disposable daughter, my son may solicit an alliance with her. The four ministers replied thus—There is *no country of any note* situated near to your majesty's domain. But there is a country called Acheh on the sea coast of the island of *Percha*. It is divided into many provinces. But it lies a good way off, or about twenty-five days sailing from this port. There is also another country situated on the same continent where *we* are settled. The name of its Rájá is كَالَنْجِي Kalangi. It lies too in the line of the voyage which brought us here. It is about one month's sailing hence to that country, which contains many rare productions, such for example, as huge vases, and small jars, and the large tree called mallau tahi se-moot ⁽¹⁾ besides many other kinds of wood of great girth. The river also which flows through that country is broad, and comes from a great distance. Well, observed his highness, if such be the case, it will be best that I should address a letter to the Rájá Kalangi, requesting that he may send to me a jar of the largest dimensions now procurable. Afterwards having thus (by delay) had an opportunity of gaining information respecting his country and children, we can act accordingly. It will also be proper to write to the Rájá with the fullest expressions of our

* Continued from last number.

(1) The tree which yields the sticklac of commerce, the Sanscrit Laksha.

friendship, and our desire to form a cordial alliance with him, acquainting him that I have settled a new country here, and that I hope he will favor me with samples of all the products of the region which he governs.

The ministers prepared two *prahus*, and loaded them with such goods and merchandize as the place afforded. Then two of them having been appointed joint envoys, they embarked, one in each of the two *prahus*—and sailed up the coast. When they had reached the *kwalla* or embouchure of the country of *Kalangi*—they observed a large *three-masted vessel* at anchor there—and they passed up and immediately proceeded to present themselves to the *Rájá*. The latter happened then to be sitting in state with all his courtiers and officers about him, hearing read a letter which had arrived by the ship from the *Rájá* of *Rúm*, who in it requested to know where *Márong Máhawángsá* was to be found.

The *Rájá Kalangi* had the letter brought by these *Keddá* ministers also opened and read. When the ambassadors from *Rúm* heard *Máhawángsá's* name which was in the letter—they looked at the envoys, and recognized them—saying at the same time—have you forgotten us, my lord? They turned round and also recognizing their countrymen instantly replied in the negative—inquiring at the same time when the other party had arrived. We arrived here only three or four days ago, they replied, and we touched at all the countries [on our way] in order to get intelligence of your *Rájá*. Since such has been your lordship's object, rejoined the *Srai* envoys, we propose that you shall accompany us to that new settlement, and wait there until we can learn tidings of the Prince.—You mistake a little, said the ambassadors from *Rúm*; we have come with the double intention of seeking for your *Rájá* and our young prince; the latter, as we have learned, is living now in *China* by himself. Well, said the envoys, we pray you to wait until we have fulfilled at this place the wishes of our *Rájá*. So they went to the *Rájá Kalangi*, who inquired of them if there were many very *large men* in their master's country, yes, they replied, there are such men in the tribe of *Girgassí*. Oh then, observed his highness, if this is the case, there is a vase here which exceeds in size that of any other, an heirloom of mine, I give this vase to your master. So the vase was conveyed by a large body of men, and put on board the ship, which had come from *Rúm*, as the envoys *prahus* held only light goods. This superb vase or jar was the handiwork of a *Girgassí* of old who lived in and belonged to that land. Its height was reckoned that of twenty steps of a ladder.

Supposing the ladder to stand at the usual angle, the height perpendicularly may have been about 10 or 12 f.

Soon after this vase had been so shipped, the Rájá Kalangi addressed a letter in reply to Rájá Máháwángsá expressing his desire to be on the most amicable terms with him; pray acquaint your Rájá with my hope that he will instruct his people to keep up a constant intercourse with my kingdom, and that this may subsist to our posterity. The two parties of envoys then took their leave and embarking in the vessel which had brought the envoys from Rúm—and sending the prahus close along the shore, they all set sail and reached Lankasuka. The vessels here anchored in *deep water*.

The ambassadors having all gone to pay their respects to Máháwángsá, they found him seated amidst his chiefs, his royal son being also present, in order to learn what ship it was which had just anchored. On the envoys whom he had sent to *Ava* entering the presence along with those from Rúm, the Rájá quickly welcomed the latter, and inquired how it happened that they had arrived along with his ministers. They laughing informed his majesty how they had so unexpectedly met their brothers the other envoys at the mouth of the river of the *country of Kalangi*, where they had presented themselves at the Court of Rájá Kalangi, the Rájá of the country of *Ava* 1;—Your slaves have been despatched by the Sultan of Rúm to convey your highness home; since his majesty has been duly apprized by the Emperor of China, that the Prince of Rúm has married his, the Emperor's, daughter. Here is the letter given to us for your highness by the Sultan of Rúm to the same effect. Máháwángsá read himself the letter, and laughingly replied. I am overjoyed, and will gladly return to the Sultan, but I request my brothers to wait until I shall have made over and abdicated with every proper formality, my government to my son, for I have perseveringly *reclaimed large tracks of land from the sea*. Ever since I had a son born to me here, and since I first formed this settlement, the extent of dry land has been prodigiously increasing. True your highness, the envoys rejoined, it is most proper that your beloved son should be made the Rájá of this country, for, in the apprehension at least of your servants, unless the Rájá to be set over it, be of the same race as your highness, he will not be able to hold the government. His highness assented to this opinion [1] He then directed his ministers to go and look at the vessel which had long ago conveyed him there, and which had been prop-

(1) Why and wherefore, we are not informed.

ped up by beams of the tree called *siddem*, as it would have to be brought down. The mantris walked away, and when they came to the vessel, they found that it was resting on dry land, and that it was hemmed in by the large forest trees which had sprung up there. The Rájá on hearing the chiefs report these circumstances laughed, and observed, So it is! Here have I been staying so long expecting intelligence of the Prince of Rúm and establishing this country. Here have I had a son born to me and here has the sea become dry land. Never mind, your highness, said the Rúmi envoys, if it cannot be of use as a conveyance for your highness on the voyage to Rúm, there is our ship ready for the purpose, to which advice the latter assented. After refreshments the envoys from Rúm went on board their vessel.

The Rájá retired with his son to the palace, and gave orders that all should be prepared for his installation. What multitudes of animals and game were then slain for the festival, and what various sorts of musical instruments were put into requisition for the occasion. There were gongs, drums, *srunei* (long flutes,) *niffiri* (flutes,) *nagara* (drums) and clapping of hands, also *hirbab kachapi* (a sort of 5 stringed violin with a large body) *dandi*, *mori kopak*, *cherachap* or castanets, *sirdam*.

In this manner the festivities were kept up for forty days and forty nights, after which on a fortunate day, and at an auspicious hour, the young prince was married to a princess, (no name) and he was then installed in his father's place under the title of *Rájá Máhá Podisat*, and the sons of *Máhawángsá's* old ministers were placed in their room near the person of the new Rájá. *Máhawángsá* after all had thus been settled, assembled the chiefs and ambassadors of Rúm, and signified his intention to give the country another name. The ministers replied, certainly your highness, for it is proper that a lasting name should be bestowed on it, while the ministers from Rúm observed, that as the country had been got without difficulty, it would be proper that the new name should imply so. *Márong Máhawángsá* upon this replied, that since such was their opinion he would give the country the name of كيدد Kiddah meaning thereby *Zumín Tauran*

ذمين طون

NOTES.

We have now brought our native author up to the time of the first Rájá, as he chuses to consider him, of Keddá, but *Márong Máhawángsá* was undoubtedly the first, since it was by his own

authority, as far as the chronicle allows us to judge, that *his* son became Rájá. Since the latter was of a sufficiently mature age to be married when his father was about to depart from Keddá, we may admit that he was about twenty years of age at that time.

The question put by the Rájá to his *mántrís* regarding the countries near him, rather contradicts the previous assertions of our author, for the countries of Cambodia, Java and other Eastern Islands were then flourishing, any of which then too far exceeded Keddá in importance. Malacca, if then settled must have been in its infancy. But I apprehend that it had not been so then. The actual products of Pegu and Keddá were probably little different from what they now are, although our author gives us no insight, beyond his account of the jars and wood, into this subject. Pulo Percha will be again noticed further on.

Kalangi is indiscriminately used by our author to designate the country, or its Rájá. In one place we find "*Rájá Kalangi*"—then the "*country of Kalangi*," and finally, "*Rájá Kalangi, the Rájá of the country of Awak*," or Ava, now called *Angwa* by the people of the neighbouring regions. The Changong of our author is Pegu which was doubtless celebrated in those times as well as these days for its teak wood, whether such was obtained from its higher tracts or from the upper country of Ava proper. As to the *mallau tei semut*, this is the present sticklac of commerce, a red-dish die. From the distant source assigned to the river it must have been the Irrawady, the river leading up to old Pegu being but narrow and limited in its course.

M. D'Anville in his Ancient Geography supposes that Pegu was probably the Besingitis, at the bottom of the Sinus Tabaricus of Ptolemy. In that case the Martaban country on the San Luen river seems to be the place indicated. Although I endeavoured during a residence of about a year in the lower provinces of Ava, to get access to ancient chronicles of Pegu, I was unsuccessful, nor do I know if any exist. In an abstract of an account of the Tenasserim Provinces which the R. A. Society did me the honor to publish (1) I mentioned that no buildings there are extant of an older date apparently than that of the introduction of Buddhism, an observation which I think will equally apply to the Burmese and Siamese countries, and the assumption by Burmese Phoungi or Buddhist priests of all the chief sacerdotal offices of these lower Provinces of Pegu sufficiently accounts for the want or scarcity of Peguan records.

Bagoo and Fegu are the ancient names for the former capital, if not of the country. Of all its former grandeur nothing when I visited it during the war with Ava in 1825 remained, but the dilapidated brick walls and ditch, and the towering Shui Madu or Stupa, the receptacle for the relics of Buddha. I noticed on a marble slab standing upon the platform of this building the inscription left by *Along Phra* or *Alompra*, the Burmese Con-

queror of Pegu. It describes his conquest in the usual hyperbolic terms

When V. De Gama doubled the Cape in A. D. 1497 Peguan vessels traded to Achin. Tenasserim, Tavoy and Mergui, were probably originally under independent chiefs, until the Siamese and Burmese contested for their possession, and afterwards alternately occupied them. It is curious to observe how easy it is to give a learned etymology to any uncertain name. M. D'Anville takes the name as applied to the former country by Europeans only; and forthwith we have Tanna-serim a colony of Tanna, whereas the native name is *Tannau*. The general belief of the people and all I can elsewhere gather would induce me to suppose that Tannau, a part in fact of Pegu, was originally peopled by the Laos race. But the admixture of the Burmese race has produced we may suppose some alteration in the normal type whatever that may have been. The Shuimadu pagoda or Staupa was reported by Symes during his embassy to Ava on the authority of a Buddhist priest, to have been founded 2,300 years ago (i. e. dating from Symes' mission) by two brothers who came from *Talaumyou* a day's journey east of Martaban. But as this fane was undoubtedly raised to the Buddha of the present Buddhist era, it must in such a case have been built at a period nearly contemporaneous with Buddha himself, which cannot be admitted with reference to the facts known as to the spread of this religion.

The Rumi envoys appear to have quite forgotten half of their mission, the bringing back of the prince, for they sailed directly towards the W. from Keddá

The account of Máhawangsa's vessel is consistent enough. The sadem or siddem tree still grows too in the country where the ship as it is related was propped up. The natives still retaining the prominent points of the tradition, pretend to shew the spot where the vessel was drawn up, and that too where the vase rested. This vase is likewise believed to be still visible—and if such really ever existed, even had its size been much less than here represented, there is nothing against the reasonableness of the assertion, for the Peguan vases of the present day are very durable, and well glazed. I have seen some five or six feet high. It has not yet been pointed out to me however. Pegu is even now, famed for its large jais, which form an article of trade betwixt that country and Pinang.

The vase for Buddhas Bo Sree was nine cubits in circumference and five feet deep. There is one remark which forcibly occurs to me with reference to the multitude of animals stated to have been slaughtered for food on the young Rájá's installation. If his tribe had been strict Buddhists such a sacrifice could not consistently have been made. The Buddhist laity however seem to have pretty generally satisfied their consciences by the conceit of not killing to eat, but of eating what had been killed without their previous

participation in the sin. But if the colony was a Sivaic one as I feel convinced was the case there can be no difficulty in the case.

The name here given to this first Rájá—that is the first who was regularly installed, partakes more of a religious than of a lay character. Podi-sat is properly *Buddha Satwa*.

I cannot find any Malay of this coast able to explain why the name of Keddá was given to their country. One author states it to be equivalent to zamin tá'iran or toran—which he says was apóliel, *because* the country had been easily obtained. Zamin being “land, country, in Persian, and tor in Arabic—a mountain, we would have the mountain region.” Torani in the latter language means “wild, desolate” which would give “the wild country,” or one in a state of nature—and either of these interpretations will apply, since it would rather seem that the coast line at Pulo Srai was not then cultivated, the aboriginal inhabitants living some way inland, owing perhaps to its having been not long before that period, an island. *Kedda* “is in Persian, a place, vault &c. and in Arabic “a cup or bowl.” Some Malays affirm that the name was given subsequently to the conversion of their ancestors to Islamism which is the most probable supposition, I think, since I consider Máháwángsá a native of India.

But the people of Keddá still call the Keddá peak *Gunong Jerai*, a corruption of Srai—which is the appellative given to it by the Siamese. Chrai is another mode of spelling it. As the word is written in the Malayan character it might be read Sri, great excellent, superior &c. but the natives never pronounce it thus.

CHAPTER IV.

Then Márong Máháwángsá said to his son the Rájá—“My son, should you be blessed with children, it will be as well that you send a son to the north north west of Keddá, and another to the S. S. E. or nearly so, of Keddá, and a third to the E. N. E. And do not you, my son, leave this country of Keddá, because there is a great extent of waste land still remaining to be cultivated, and a great deal has also been left dry by the sea, and besides, by so doing you will make my name famous throughout the world, as the settler and founder of this country.” Then the large jar was brought on shore from the Envoy's ship, and it was placed close to the foot of a tree named *Prokam* (?) which was of the girth of a deer net, or gooling aring. The old Rájá said nothing when the people reported that the jar had been thus placed, for he was busy

(?) *Carissa spinarum*, *flacouria calaphrasta*. Marsden's Dictionary p. 153. It is a thorny tree.

preparing to go on board. Soon after this he set sail for Rûm. In going out of the harbour, Máháwángsá looked towards the shore and saw *Pulo Lada*, which island had then been annexed to the main land, called afterwards *Bukit Lada*, the '*Hill Lada*', also *Pulo Jambûl*, before an island, but which had also been joined to the main shore; and which afterwards got the name of "*the Hill Jambûl*," for it was quite in a line with *Pulo Srâi*, which last was just about being joined to the main land and was subsequently named *Gunong Jerrei* or *Chirrei*, on account of its great height (*a*). Again towards the N. N. W. was to be seen what looked like a point of a moveable nature (*b*) and further seaward *Pulo Giryang*, which was, not long afterwards, attached to the main, also then called *Gunong Giryang*, and *Bukit Tunjang*. [But the Rumi Envoys appear to have forgotten altogether one of the objects they had before assigned for their mission, the finding of the prince of Rûm.]

Rájá Podisat being thus fairly established in his seat of authority in Keddá or Zumûn Tauran, he implicitly followed the dictates of prudence, moderation and liberality, in his intercourse with his ministers, and other officers, and towards the ryots, and the merchants, strangers, and the indigent who resorted to his country. In this way his fame for wisdom and hospitality was spread abroad, and induced numbers to flock to Keddá, which soon became more and more populous.

After a while another son was born to the Rájá, equally endowed in features and appearance as his elder brother. The royal nurses accordingly selected companions for him from amongst the children of the mantris, and officers of state. Before very long again, he had another son who was provided with companions in a similar manner, agreeably to the usage of great princes.

A long time in days and years had not elapsed after this event, when his highness was presented by his queen with a daughter of exceeding loveliness of feature, sweetly elegant, of a light yellow complexion and delicately slender. It would have been indeed difficult in those days to have found her like. The young princess was also provided with attendants, nurses (*dry*) and playmates from amongst the children of the men of consequence. After how long an interval again of

(*a*) *Chirrei* in Siamese is the name of the *Ficus religiosa* or *Baniam* tree of this part of the Peninsula.

(*b*) بولج means what has an undulating and floating appearance at a distance like liquid mud.

years and months, the Rájá had another son born to him, who was equally gifted, as his two elder brothers, with personal endowments. It was a great source of delight to Maha Podisat to watch these children at play, and to see them daily increasing in stature and knit together by mutual affection, and acquiring also all the desired accomplishments of mind and of person. His highness when he sat in his hall, for the administration of justice, and state affairs, along with all his officers, used to have these four children present, that they might learn how to govern, and their behaviour, prudence and generosity gained them the love and applause of all the chiefs and people, and the gratitude of the poor. Their politeness and affability to strangers and merchants secured their esteem and admiration. When also the Rájá gave audience in state in his palace, these four children would not be absent, but sat close to their *parents* in a respectful manner; and conversed with and addressed them in pleasing language. In fact they would not separate themselves from their royal parents. When too, the Rájá accompanied his sons outside of the fort, he gave to each of them a horse, and a weapon, and made them, while at a gallop, tilt at the stalk of a water lily. The plain was full of people who flocked to see this exercise of the young princes, and their practise also, on horseback, with the bow and arrow. These sports were repeated every three days, and the sons of the ministers also joined in them.

At length these four royal children grew up, and it became requisite that governments should be provided for them. Accordingly when the Rájá was one day seated in public with his officers around him, the four *old* mantris made obeisance and said—"We four brothers, may it please your highness, are of opinion that it is now time to follow the injunction of your royal father Márong Máháwángsá, by sending your children to their respective destinations, especially now, because the lands indicated and tracts mentioned by your father are all *wildernesses*, they have no inhabitants, or at least they have only scattered populations and they have no rulers." Rájá Marong Maha Podisat replied—"If this be the advice of my brothers I pray you to send and collect all the tribes or families of Girgassies, and instruct their *Panghulus* Nang Sutamán and Pra Chi Sam, and their wives to come with them, as I intend to order them to accompany my eldest son, the rest of the escort will be composed of my *Malays*. The journey is in a N. N. W. direction and is a long one." Then Pra Chi Sam and his wife having arrived, they were thus accosted by

the Rájá—"Oh chief! you, your wife and family are to accompany my eldest son—so assemble all your people, and then set forth in search of an eligible country for my son to rule over and where he may erect a fort with a ditch." Pra Chi Sam and his wife and family and Nang Suttaman, professed their readiness to go, observing that this country of Keddá is confined and not sufficient to contain the increasing numbers of your highnesses people the Girgassies. But, said Chi Sam, will your highness be pleased to inform me if my son Parak will be retained here at Court. The Rájá told him to take Parak along with the party. This Pra Chi Sam was the son of a Malay and had been married to Nang Suttaman a Girgassi, and they had a son, the Parak just mentioned. The lad was handsome. It happened that a Girgassi panghulu or chief, named Nang Meri, who was the daughter of a Girgassi Rájá, had then arrived. She was a chieftainess of the first rank and consequence amongst her tribes. Nang Meri was advanced somewhat in life, for she had both children and grand children, and the females had all been taken to the Rájá's palace, as they were very beautiful, being all Girgassi. Now Nang Meri was madly in love with this Parak, son of the couple Nang Suttaman and Phra Chi Sam.

All having been got armed and ready, the colony departed to the N. N. W. There were numbers of horses and elephants along with it, and the march was enlivened by field sports and fishing, and diversified by the various objects of interest which the party encountered, but no eligible spot yet presented itself for a settlement. At length the party arrived, after two hundred days and nights travelling, at a desirable spot, *where was a rivulet which flowed into the sea.* The land was level and populous. Here the young chief erected a fort and palace and dug a ditch round all, and became the Rájá of the country, and then he sent and collected the scattered population of the districts into a narrower compass. He then called this large country *Siam Lanchang* سيام لانچانج [It requires 12 days for troops to reach Ligor from Keddá and 14 days for men mounted on elephants.] Then the Rájá of Keddá learned that his son had been settled in the government of that country called *Siam*, and that he had ordered that those districts which would not submit to Siam should be attacked and destroyed by the chief of the Girgassies Phra Chi Sam and his men. The obedient districts sent their officers with gifts, and offerings in token of their allegiance to the country of *Siam*. [7]

NOTES.

[7] I shall have occasion in the sequel here to examine narrowly this claim set up by our Keddá annalist that the Keddá country gave a king to Siam. It is undoubtedly within the scope of possibility, and, if Loubere was correct, of probability, for that author remarks, that all the kings of Siam were not of the same race. But I have discovered no recorded facts to countenance the supposition, that Máláwáng-á was a progenitor of any king of Siam. I think however, that there will be sufficient evidence to shew that an intercourse had begun at an early period betwixt Keddá and Siam, and that the former was one of the inlets to the lower provinces, at least, of Siam, of the religions of India.

It would seem, as I have before hinted, from the reply given by the mantis to their Rájá, that they knew only of two celebrated kingdoms within a reasonable distance, namely, Achin and Pegu, yet at this period Java, Menangkabau in Sumatra, and the ancient Singapura, or Johor, the Sabor, it is believed, of Ptolemy, were flourishing. The putting of such a question belied the assumption that Keddá then carried on an *extensive* trade with foreign countries.

The bow here called dhachang was only used by Rama and Buddha.

Rokam is a Malayan name for a wild fruit tree, the *carissa shinaram* or *flacourtia calaphrasta* of Marsden, and the girth of the one described was that of a guling aring or deer net, which would give a diameter of about three feet. This net or trap is shaped and constructed like a purse. The hoops are connected by meshes of rattans, and when not in use, it folds or closes up just as a purse does. Its length is about 6 or 7 feet. The same trap is employed to catch wild hog, nearly the same to carry hogs to market. The underwood of the forest is cut along a given line, and then formed into a bushy fence with apertures at intervals, in which the nets are fastened with the open end of course inward. Sometimes, especially when hog is the game, these nets are set something in the manner of a moletrap, by bending down a thick branch of a tree to act as a spring. A party of men takes a wide circuit, and drives the animals towards the fence, when the latter rush into the guling aring. I have seen a large pig swung up into the air by this contrivance.

Gunong Giryang, is the "elephant rock" of modern maps. It rises abruptly out of a low marshy plain, and is about 3 or 4 miles inland. It is a towering mass of apparently primary limestone, and the shells embedded in a ferruginous breccia found in its numerous caves, proclaim it to have been an island as described by our author. Within my own experience, or the last twenty years, the sea has in some places on the coast of Province Wellesley,

about 40 miles further south, receded from 5 to about 100 yards in some places, while the land has lost as much in others. The word "populous" as employed by our author conveys no definite idea of the population of Keddá at the period. Looking at the first area actually, by his account, occupied by the mere colony, I would be inclined not to rate it in Rájá Podisat's time in the beginning of his reign, beyond 1,000 souls at the utmost, *exclusive* of the aboriginal inhabitants, or Girgassí. There seems to be a little too much of adaptation in the number of children assigned to Rájá Podisat, as it just meets the number desired by his father Máiong Máhawangá. This supposition is based on that of the colonists having consisted of the passengers of one ship only, and as the Girgassí chiefs asserted that the populous, or overpopulous state of Keddá arose from the increase of their tribes, not of foreigners.

If the description we here find of the attention paid by the Keddá Rájás to the education of their children be correct, it will forcibly contrast with the culpable and apathetical indifference exhibited by most of the Malayan Rájás of the present day, for their sons receive little or no education befitting their station, but only such as to render them piratical abroad, and cruel and oppressive to their subjects at home. There is however one part of education which is never neglected, a scrupulous attention to the rules of politeness, which in after life too frequently merges in a morbid sensitiveness, alike afraid of giving offence by speech, and ready to take offence at every fancied slight. It is a cloak too amongst the unprincipled portion of the Malays to treachery and revenge.

There is now no predominant Malayan power. Were the shattered fragments of the original dynasties to be left to themselves, without the checks of the Dutch on the one hand, and the British on the other, a dreadful scene of anarchy would ensue. Wherever a new settlement is formed a fort and ditch and a palace are the three things first attended to. The Girgassí were governed by a woman, and the chieftainess, Nang Soottaman, came it appears from a *distance*, so that it is to be supposed that Keddá was not the seat of her authority, but where that was does not appear. The horses alluded to may have been got from either Achin or Pegu, the latter is the most probable supposition, the Sumatran ponies being too small for *warlike evolutions*. But this continent southward of Ava has never been adapted to cavalry. The distance allowed by our author from Keddá to Siam Lanchang is 200 days, and this would be more than sufficient for a journey to the present capital of Siam. The sea however directly to the eastward of Keddá can be reached in 7 or 8 days. The direction could not have been directly to the N. N. W. This must be a mistake as it would lead to the Bay of Bengal. It is stated that several districts would not submit to the *kingdom of Siam* almost inferring that the country was not a new one as here attempted to be shewn.

We now find our author mentioning *Malays* as forming a part of Rájá Podisat's subjects. Thus there must have been a population consisting of three distinct races, the Gurgassis, or *aborigines*, the *Colonists*, and the *Malays*. The subject of the origin of the Malayan race is still beset with difficulties. We are made aware by the writings of Sir S. Raffles and others as well as by native authorities, that Menangkabau in Sumatra was a very early and chief seat of *Malayan power*.

The etymology by the *Malays* of Menangkabau, as quoted by Sir S. Raffles (†) of the name *Malaya* is rather fanciful. A chief named Sauria Geding had proceeded on an expedition to Sumatra. Two of his people (doubtless with followers) Patisi Batong and Kai Tamong-ong fled to Menangkabau and in time established a new government. As they had been wood cutters, the nation was called *Malaya* from *Mala*, to bring or fetch, and *aya* wood. But neither of these words are as far I can learn now used in such a sense by the Malays, nor are they to be found so applied in Marsden's Dictionary. This last reason however would not alone hold good, because there is a large number of Malayan words not included in it, and some may have become obsolete. But are we to suppose that the Malayan race was indigenous to the Peninsula? Some writers have imagined that they came from the north, or from the vicinity of Tartary. That various tribes have been successively thrust southward from that quarter by the pressure perhaps of population, partly admits of proof. The Malayan features certainly more resemble those of the Indo-Chinese generally considered, than they do those of any other nation. But there is an impediment say some to this argument for similarity of origin, in the very marked distinction which exists betwixt the structure of the Malayan language as it now exists and the whole of the Indo-Chinese dialects. The first is polysyllabic, the latter are monosyllabic in most instances, and in the rest having the monosyllabic structure even while admitting some polysyllables. Marsden noticed that one language once prevailed from Madagascar to the Archipelago. Does the language of the former now bear any affinity to the Malayu? But this would tend rather to prove that the race travelled west. They reached the Cape of Good Hope too. Sir S. Raffles remarked that the Javanese say that they navigated in former times to Madagascar. And it is stated in the Ceylonese Mahawanso that Ceylon was invaded by an army of Javako or Javanese. The Javanese visit to Madagascar took place Mr Crawford supposes or says before the Hindoos or Arabs reached Java—which would have thus been at least 75 A. D.

There is a considerable diversity of colour amongst the Malays of the present day, owing to intermixture with foreign races. But on this point I suspect that the original type not only of the

(†) *Memoirs* p. 435.

Malays but of the Indo-Chinese in general, once approximated much closer to the colour of the Chinese than it now does. I have invariably found that the more secluded any of these tribes lived the fairer were their complexions. I observed this particularly amongst the jungle Karians of Martaban province, and one of the wild or aboriginal tribes of the Malacca Peninsula in the heart of Perak. I except of course the woolly haired races. The colour of these Perak Samang, as they are called, whom I saw, was much fairer than that of the Malays around them, being nearly that of the southern Chinese, for those of the north are as fair as many Europeans. The partiality of all of the Malayan tribes leans strongly towards fairness of skin, whereas the African who never perhaps was fairer than he is now, deems blackness, perfection.

"White and yellow" mixed is the favorite expression which Malayan writers, amongst whom is our author, employ when describing female beauty.

There is a curious passage in the *Sajara Malayu* or Malayan Annals which might tend to induce a belief that there were tribes of the *original* Malay race on the Malacca coast when the colony of, in this case, *foreign* Malays, reached it.

"Sultan Mudhaser Shah, of Malacca, ordered the Bandahara Paduka Raja to drive the Siamese out of the country (they had invaded it) and he directed Sri Vija Al di Raja with the rest of the hulubalangs and champions to accompany the Bindahara. "This Sri Vija Al di Raja was a *native Malay* and named originally Tun Humza" [*Humza* it may be observed is the famous sacred goose of India] "and he derived his origin from the cows vomit." (1) This last remark has also reference to *Hindu* superstitions. The word in the original work, at least in my copy of it, is *Asl*, which means root, origin, source, which are still stronger expressions than the one Leyden has here used. But the author may have only meant that he was an unconverted Malay.

It would seem that the Malays at first occupied the East Coast of the Peninsula along the gulf of Siam from Sangora or *Singhora* inclusive to Point Romania or Ujong Tannah Malayu. But they were overrun by, and their countries were brought from time to time, under the sway of the Siamese. When this rule to the south of Siam Proper began is not certain, but if any credit be due to the Malayan annals, it must have been long before the settlement of the *antient* Singapura.

(1) *Mal. An. Leyden*, C. XIII p. 130,

CHAPTER V.

Rājā Marong Maha Podisat gave orders very soon after this object of settling his son had been gained, that his four ministers should collect a body of armed men, horses and elephants, with every requisite for another expedition. So when all had been prepared, his second son departed with it, journeying towards the S. S. E. of Keddā, in search of a place to form a settlement and to build a fort and palace with the usual defences; and being accompanied by ministers and other state officers, ryots and followers. The expedition passed through the deep forests, and over hills, passing the time in all kinds of amusement and sports of the field, and when it reached a deep pond or pool the people stopped to fish. At length the colony reached a large river which descended to the sea.

Again it came to a water course and lake, which surrounded a row of three or four Islands. The young prince was charmed with the aspect of these Islands. He therefore took a polished silver arrow, and adjusting it to his bow called *Indrasakti*, thus addressed it:—"speed and fly thou away towards these three or four Islands and there descend—and wherever you now reach the ground there I will form my settlement and build my fort" The silver arrow sped aloft with a sound like that made by the wings of the humming beetle and fell upon one of the Islands—therefore the prince called the Island *Indrasakti*. Here on that spot the Raja built a fort and surrounded it with a ditch, and then erected his palace. He had all the inhabitants and people too, who were dispersed and scattered about, collected. Thus having got into his palace with all his people about him, he found that the new country was established, he then called it *Nīgri Perak* or the Perak or Silver country—after that silver-pointed arrow. So the country continued settled and flourishing under the just and wise sway of the new Raja. [8]

When Marong Maha Podisat heard of this fortunate result of the expedition, he said to his four old mantris—"My brothers I beg you to get ready the supernaturally gifted elephant named Lela Johari, which our father Marong Māhāwāngsā used to ride. Let it be provided with a royal Sukhtikurjaan or howdah having a canopy and hangings because I desire to raise my daughter to the dignity of a Rājā and to settle her in a government. Do you my four brothers accompany her to her destination; and take charge of her and the expedition, and when the undertaking shall have been accomplished, then do you four return here to me, leaving the elephant Kamala Jauhari to attend

its mistress, because it will be able to give me always speedy accounts of her the princess my daughter." Accordingly all was quickly got ready, and the princess having been seated on her elephant Kamala Jauhari, the Rájá put into her hand a charmed kris called *Lela Masani* which was originally willed as an heir loom. He likewise said to the elephant. "If thy mistress shall become a Rájá, do not thou discontinue going backwards and forwards betwixt her settlement and Keddá, to keep me informed of all that happens to her." Then Jauhari made obeisance, and set off due East followed by all the ministers and other state officers, who were appointed to escort her. They soon entered upon a wild, woody tract, covered with primeval forest, of great extent and unfrequented;—then having quitted that broad level country the elephant led the expedition over hills and mountains. When the colony had approached near to the sea *there*, and had arrived at a large river which emptied itself into the sea, the elephant Jauhari halted, for the place was level. Here was erected a palace and a fort defended by a ditch, and the chiefs and people having effected this, the Queen examined the buildings, and then seating himself on her throne received the homage of her subjects. Now all those who thus presented themselves before her highness, were quite astonished at her state, and the power conferred upon her by the possession of the enchanted kris and the elephant Lela Jouhari.

Thus from month to month and from year to year, the population of the place increased. The four ministers finding all in such a fair train craved leave to return to Keddá and asked also her highness to favour them with the name of the new settlement. The *female* Rájá approved of their desire to return, and told them that they should acquaint her royal father that the country had been named *Patani*, because or on account of the kris *lela mussani* (a)

Thus the Raja of Keddá Marong Maha Podisat happily accomplished his desire to settle his children in separate Governments, yet grief assailed his mind, when he reflected on the solitary condition of his remaining son for he had no other child, than this youngest before mentioned, and moreover he was getting aged, and because (owing to so many drains upon it) the population of Keddá had become scanty. In order therefore to dispel his melancholy he spent most of his time in hunting animals of the forest and netting birds, and allowed his son to carry on the Government with the aid of the ministers and principal state officers. [9]

(a) The sequiter here is quite obscure.

NOTES.

[8] The Malayan Rajas are generally attached to field sports. The Krian is the only large river betwixt Kedda and Perak. But I am not aware of any lake enclosing islands in that direction. It may possibly allude to the Dinding islands close to the mouth of the Perak river, or to some tract near or at Bruas river. Perak is admitted by the Chronicle to have been at this period well peopled, and if the Malayan annals are to be trusted it was so at a very early period. In these it is stated that Manjong or Perak was a great country, and gave to Acheh or Achin its first King who was named Polong.⁽¹⁾ but Acheh received from Champa a King of the same name, which creates a doubt here as to the identity of this last Polong. In the Achinese annals (Malayan) we find that Sultan Mansur-shah the Raja of Perak was raised to the throne of Achin in A. M. 935 or A. D. 1,607: Marsden gives the date at 1567, but does not I believe quote any authority. Bruas on a river of that name seems to have been the capital. The people are very illiterate and I could not when there get from either the Raja or his subjects any account either oral or written of the antient state of their country. In the Malayan annals however we find that the celebrated Raja Suran or Surin of Amdan Nagara or Bijanuggur in the Peninsula of India ⁽²⁾ when he invaded the Malayan Peninsula, arrived first at Gunga Nagara in Perak. If Kedda had then existed he, supposing that the prominent features of the narrative are correct, would most likely have conquered it first. The Raja of Gunga Nagara had his fort on a hill, steep in front, but of easy access in the rear and situated on the Dinding river, now perhaps the Perak river, although the country is very *level* until we ascend far up the river. The Raja was named Gungi *Shah* Juana. I may observe here that the Malayan Rajas from the earliest times of their intercourse with the west have used and now use indiscriminately both Indian and Persian Titles. The invader attacked this fort, and it seems that no fire-arms were employed, bows, arrows, swords and spears only being mentioned. It is not stated by what route this Army of Suran came, but it must have been by sea. Manjong is another name given to Perak, or part of it, in these annals, but neither it nor Gunga Nagara, literally the country of Ganges, are terms now in use.

[9] *Patani*.—This country comprises a considerable area. Its population it is believed has been greatly reduced during the last century, and does not now exceed a tythe of what it once was. It was antiently one of the most populous principalities on the Peninsula. The Malayan annals shew that Patani was conquered by Siam during the reign of Sultan Mahomed in about A.D. But it must have

(1) Malayan Annals C. VIII. 2 Phriya Turin, is a high officer of the Siamese Army.

(2) A Siamese title.

been so long before. Floris observes that it was "formerly governed by Queens" thus corroborating the Marong Mahawangsa, and "that it was conquered by *Raja Api*, the black or Fire King of Siam about A. D. 1603." I suspect that this Black Prince must have been a foreigner, perhaps an Indian. *Api* is a *Malayan word* meaning *fire*. But the Siamese had conquered it, and that perhaps for the first time as the same annals inform us, by Chau Sri Bangsa, a son of the Emperor of Siam, about the latter part of the fourteenth century. Its Raja, Suliman, was on this occasion expelled. His town and fort were called Kota Malegei, viz., "fort and palace" Hamilton says that Patani paid tribute to Siam in 1703 A. D. but was under Johor. If the Keddá annals be correct the country was first settled under a Queen. At the period of the last named conquest the ruler of Ligor was Maha Raja Deva Sura. But rebellions have been frequent since that time, one having happened so late as 1830-31, although like the preceding ones it was quite unsuccessful. On this last occasion, as well as in the rebellion of 1786, the Siamese employed a large body of Keddá troops, and this, too, while the outbreak against them by the Malays of that province had been but barely suppressed, thus evincing the great superiority which the Siamese possess over the Malays in tact, decision, method and combination.

One of the Rajas of Johore according to Patanese tradition, for I have not yet obtained any *connected* written history of Patani, married the last Queen of Patani, Phra Chu the nuptials having been celebrated at the latter place with great pomp. Previous to this event Patani had been divided into forty-three mukims or divisions including Calantan and Tringanu, and its two chief ports were Qualla Patani and Qualla Bukkah. But the Johor Raja had obtained the district of Tringanu for one of his favorite courtiers, thus reducing the number to 42. The capital was then called Kota Kiddei the "mart fort."

Soon after this alliance the Johor Raja fell in love with Dang Frat, the beautiful daughter of one of the Patani chiefs, who became his mistress, and in time acquired such an ascendancy over him, that he neglected Phra Chu, who accordingly nursed in her bosom the serpent of jealousy. "To exhibit her influence she got the Raja to order to be made for her a golden chaping, or *fiy leaf* (anglice) of a cubit breadth, and weighing five catties, or 6½ lbs. which surprised the goldsmith, and would have convulsed the courtiers with laughter when she wore it at her waist, had they not suppressed it for fear of the Raja, for she appeared like "one outrageously *enciente*." The Raja built a fort and a palace for Dang Frat giving it the name of Kota Bharu, or "the new fort," which event distressed the people and gave rise to several satirical poetical effusions in the country of Keddá. One day his highness deigned to recollect his neglected wife, and went to pay her a visit, but on his approach he was met by messengers sent by

the indignant lady forbidding his advance, and directing him forthwith to evacuate the country. The Raja perceived that he had no means of resistance, so he sailed for Johor. Phra Chu after having bestowed her unmarried maids of honor in marriage on her chiefs continued to reign alone for ten years, until her death. When this happened the chiefs constituted an oligarchy and the old fort was demolished in order to obliterate all remembrance of royalty, and to prevent any one being tempted to assume the supreme power.

This oligarchy divided amongst them the forty-two districts and all the property of the late government, and the chief who had held the highest rank under Phra Chu was allowed to retain the title of Dattu. These chiefs were all individually independent, but they confederated for mutual defence. So the people only exchanged, a perhaps, *matriarchal* government mildly administered, for a knot of petty despots. In those days Patani had a population it is said of 150,000 males, from 16 to 60 years of age. It is still populous and sends its hundreds to the Haj every year. The Patani mountains, dividing it from Kedda and Perak, have rather a grand appearance when seen from Pinang. They are, where most elevated, I should suppose from four to five thousand feet above the level of the sea. I passed there in 1836 when proceeding to inspect the Patani tin mines, which last yield pretty abundant supplies of that metal. Patani is fertile in rice; and cattle are supplied by it to Pinang. These animals are compactly built, and have moderately sized humps.

The Patanese appear to be a mixed race. They seem to be more industrious than the Malays around them. Their religion is Islamism, and there are more hajis amongst them than are perhaps to be found amongst an equal number of Malays any where else. The intending hajis generally cross the hills, and embark for Arabia in some Arab vessel at Pinang. The Patanese are not wanting in courage. The products of their country are gold, tin, grain, cardamums of inferior quality to those of Malabar, salt, buffalo and horned cattle, pepper, saltpetre and wax.

This province of lower Siam is now divided into six mukims only of the first class, and one of the second class. The English established a factory here in 1610, but abandoned it in 1623.

A Buddhist priest of Siam gave me the following short recital which confirms the account of a princess having gone from Kedda to Patani:

‘Six men fled from *China* and settled at Patani. They must have been people of great consequence because the Emperor tried to secure them but failed. After they had fled from Patani to Siam, Phra Chan Ko Lai, a son of the Emperor of *Siam* Chan Chiwit ⁽¹⁾ went to reside at Patani contrary to his father’s wishes. There was at this period a princess of Srai or Kedda

(1) A mere title, viz., “Lord of life.”

‘ who came to Patani or Tani, as it was also then called, and offered to marry this son of Chiwit if he would seize the capital of Siam. This he refused it appears, doubtless because he had not the means, and the lady forthwith expelled him from Patani, and took the government in her own hands, but the Emperor of Siam afterwards regained that province and appointed district governor to rule it.’

Owing to this custom of allowing women to wield the reigns of empire, and which seems to have been pretty widely extended, we might be induced to attribute a considerable degree of refinement to the people whom they ruled. But it is to be suspected that this refinement did not go deeply into society, and that the real power was generally exercised by ministers, if not usurped by them. Wherever Islamism was introduced these females ceased to reign, and were excluded from succession. At this day Indo-Chinese females enjoy more personal liberty and enter more directly and keenly into the bustle of life than do those of India. So I have noted to be the case in Pegu, in Burmah, and amongst the Siamese. In Siam the lady of a governor of a province is not debarred from acting officially for him during his temporary absence. Another Siamese, a priest, informed me that Phra Chan Ko Lai, the son of Chan Chiwit, king of Siam (a) went to Tani, or Patani, to drive off some Chinese. It happened that a princess of Srai or Sai had arrived there from that country, who promised to marry him provided he would seize on the throne of Siam. But finding him rather disposed to remain master of Patani, she had him *killed* and reigned herself. The Emperor of Siam however reduced the country afterwards, and having apportioned it amongst certain chiefs made them tributaries, [which mode of ruling is in practise at this day.]

Alphonso de Sosa reduced Patani town to ashes in A. D. 1527. The above two recitals however serve to confirm the account of our Kedda historian, for the Marong Mahawangso was not known to the Siamese, being in the Malayan language and preserved in the private repositories of the Rajas of Kedda.* It was discovered by the Raja of Ligor when he last took that province into his own hands, and it is said he destroyed it when told that a king of Siam had his origin there.

(a) Chan Chiwit “the lord of life,” is applied to every king of Siam.

* Other copies must exist. We have one.—ED.

[To be Continued.]

A VOCABULARY OF THE KAYAN LANGUAGE OF THE NORTH-
WEST OF BORNEO.

By R. BURNS, Esq.

LIKE all the other aboriginal tribes of Borneo the Kayans have no alphabet, mode of writing or knowledge of letters, nor do they practice any systematical method of representing their ideas by figures. With the exception of local differences, all the divisions of the tribe speak the same language, so as to be intelligible to each other throughout their wide range on the island. The Kayan language is copious, pleasantly soft and comparatively easily required. The following is a vocabulary of the dialect spoken in the district of the rivers Bintulu and Rajang, and their branches.

Earth	Tana Lim	Current	Kasi
Sky	Langit	Lake	Bawang
Sea	Kala	Dew	Lipot
Sun	Matin-dow	Fog	Ap
Moon	Bulan	Wind	Bahoie
Star	Kraning	Storm	Ovan
Light	Mala	Land	Tana
Darkness	Lidam	Country	Dali
Lightning	Kilat	Village	Dolia
Thunder	Balari	Town	Dali
Eclipse	Sowang	Island	Busang
Heat	Laso	Cape Point	Tujol
Cold	Laram	Whirl-pool	Ivak
Cloud	Lison	Plantation	} Luma
Rainbow	Langi Hatong	Field	
Tide-flow	Wap	Plane	Tana Padit
Fire	Apui	Wood jungle	Tuan
Smoke	Lison	Sand	Hyt
Sparks	Wur	Rock	Batu
Flame	Mala	Shell	Seh
Ashes	Havo	Garden	Luvo
Fuel	Tyon	Mountain	Knalang
Charcoal	Lusong	Cave	Luvong
Water	Atta	Hoase	Oma
River	Hungie	Room	Tilong
Rain	Usan	Door	Taman

Window	Batave	Iron	Titì
Loft	Parong	Steel	Titì Mying
Floor	Tasu	Magnet	Titì Lakin
Stairs	San	Copper	Kavat Bla
Railing	Krahan	Brass	Kavat Nymit
Partition	Dinding		or Knymit
Beam	Bong	Tin	Samha
Boards	Liap	Medicine	Tabar
Rafts	Kaso	Gun	Pulot
Laths	Laha	Rozin	Lutong
Thatch	Apo	Camphor	Kapon
Nails	Tapak	Opium	Pune
Table	Talam	Trees	Pohun
Mat	Brat	Root	Aka
Mattrass	Luto	Trunk	Batang
Pillow	Hilan	Bark	Kul
Curtains	Kalabo	Branch	Dahan
Screen	Dindingkalabo	Leaf	Iton
Box, Trunk	Pati	Flower, blossom	} Pidang
Basket	Alat		
Plate	Pigan	Fruit	Bua
Cup	Pigan dui	Orange, Lime	Lavar
Knife	Knoe	Pine apple	Orusan
Handle	Houp	Mangostin	Kitong
Pot	Taring	Plaintain	Púteh
Jar	Goasi	Jack	Badok
Torch	Lutong	Mango	Sapam
Candle	Lutong La	Durian	Dian
Bees-wax	La Hingit	Beetle-nut	Gahat
Wick	Wang	Cocoa-nut	Knoh
Sieve	Ilik	Kernal, Seed	Wang
Bucket	Lima	Vegetables	Tango
Scales, Balance	Tibang	Yams	Uvi
Hammer	Tukol	Sugar Cane	Tuvo
Anvil	Taranan	Salt	Knah
File	Isa	Pepper	Lia
Gimlet	Knivo	Ginger	Lia Tana
Hatchet, Axe	Asey	Oil	Tilang
Sharpening Stone	Batu Asa	Journey Provisions	} Maso
Chisel	Panjok		
Awl	Tuel	Sugar	Tuvlang
Spear	Bakier	Padi	Pari
Crow Bar	Kali	Rice	Baha
Hoe	Weying	Boiled do	Kanan
Gold	Ma	Dried Rice	Kartip

Flour	Tapa	Rat, Mouse	Lavo
Fish	Masik	Monkey	Brok
Beef	Sin	Ape	Poinang
Eggs	Tilo	Mias	Orong Tuan
Boat	Haruk	Tail	Eko
Oar	Say	Skin	Blanit
Gun	Banin	Snake Sarpene	Knipa
Ball	Panglo	Boa Constrictor	} Panganan
Powder	Tabar Banin		
Wheel	Ilier	Black Snake	Jilivan
Needle	Loe	Worm	Halang
Thread	Tali	Centipede	Diripan
Fish Hook	Pisey	Scorpion	Diripan Kitip
Tobacco	Jako	Leech	Atak
Cigar	Loko	Frog	Jowi
Surf, Wove	Bangat	Toad	Bunang
Throne	Tagan	Lizard	Silowit
Dress	Akave	Alligator	Baya
Hat, Cap	Lavong	Guana.	Kavok
Coat, Jacket	Basong	Tortoise	Kalovi
Shoes	Tadok	Butterfly	Langoto
Cloth	Kain	Fly	Lango
Woollen do	Sakalat	Musquito	Trokok
Satin	Dasu	Small Kind do	Hamok
		Flea	Koto Naso
Tiger	Lijow	Bee	Hingit
Leopard	Koli	Findly	Ada
Bear	Buang	Ant	Klavirang
Dragon	Nang	Birds	Manok
Rhinoceroes	Tandoh	Kite	Knahu
Deer	Payow	Pigeon	Poni
Hart	Payow Wang	Fowls	Knap
Rar	Payow Doh	Sparrow	Bayong
Mouse Deer	Planok		
Goat	Kading	Mankind	Kolonan
Wild Hog	Bavoi	Man	Laki
Boar	Bilangnyan	Woman	Doh
Sow	Miray	Child	Hapang
Pig	Uting	Body	Loang
Boar	Batuan	Head	Kohong
Bow	Hinan	Hair	Bok
Pole Cat	Bukulo	Beard	Bulo
Dog	Aso	Eye	Mata
Cat	Sing	Face	Iuang
Squirrel	Pinnyamo	Ear	Apang

Nose	Urong	Joy	Barkam
Cheek	Pinga	Grief	Mahal
Tongue	Jila	Hope	Lay
Mouth	Ba	Dumb	Hamang
Teeth	Knipan	Deaf	Madang
Neck	Kran	Blind	Pisak
Chin	Jan	Cough	Nikar
Shoulder	Hone	Mad	Buling
Back	Loung	Boil, Pimple	Tuko
Heart	Kanip	Small Pox	Klapit
Rib	Ha	Rheumatism	Niviksal
Hand	Kama	Scurf	Key
Right do	Tow	Itch	Gatan
Left do	Maving	Fever	Padam
Arm	Lipe	Asibma	Ly
Wrists	Uso	Wound	Gga
Elbow	Hiko	Sick	Prah
Finger	Ikin	Ague	Padam Bilong
Thumb	Taval	Lunatic	Blanin
Nails	Hulo	Toothach	Prah Knipan
Breasts	Usok	Kindred	Pabarin
Abdomen	Butit	King	Maran
Knee	Aliv	Queen	Maran Doh
Leg	Itat	Lord	Hipoy
Feet	Kasa	Master Mr.	Hibo
Toes	Ikin Kasa	Nobleman	Panyan
Heel	Tumin	Slave	Dipin
Skin	Blanit	Husband	Laki
Bone	Tulang	Wife	Hawa
Flesh	Sin	Father	Amay
Sinew	Uat	Mother	Inei
Reins	Uat Daha	Grand-father	Huko
Pulse	Uat Nitit	Father-in-law	Ivan
Milk	So	Mother-in-law	Ivan
Blood	Daha	Brother	Arin
Entrails	Tanei	Brother-in-law	Hango
Lungs	Praha	Sister	Arin Doh
Stomach	Batuka	Sister-in-law	Hango Doh
Liver	Pley	Son	Anak Laki
Bladder	Na	Daughter	Anak Doh
Brains	Otak	Twins	Anak Apir
Spirit	Brua	Orphan	Anak Ula
Mind	Kanip	Uncle	Mamo
Love	Masi	Aunt	Mamo
Anger	Mano	Nephew	Nakan

Neice	Nakan
Bastard	Tuyang
Friend	Savila
Enemy	Iow
God	Tanangan
Lord	Hipoy
Ghost	Knito
Mercy	Masi
Time	Rua
Season	Doman
Beginning	Aring
End	Bya
Year	Doman
Month	Bulan
Day	Dow
Day-light	Dow Mala
Mid-day	Dow Nagrang
Morning	Pisol
Night	Malam
Mid-night	do. Kagrang
Tomorrow	Jíma
Yesterday	Dow Dahalam
Last-night	Malam do.
To-morrow morning	} Jíma Pisol
Day-after-to-morrow	
	} Duji

Pronouns.

I	Akui
Thou you	Ika
He, She, it	Hia
We	Ita
Ye, you	Ika
They	Da'a
Who	Hey
Which	Nono
What	None
My, Mine	Akui Hipon
They, thine	Ika Hipon
His, hers, its	Hia Hipon
Ours	Ita Hipon
Yours	Ika Hipon
Theirs	Da'a Hipon

'This	Ini
That	Iti
All	Lim
Every	Lim Lim
Either	Ini Iri
Some	Bali
Other	Dap
Any one	Tilana Ji
Such as this	Nonana
Such as that	Notika

Adjectives.

Acid	Sam
Aged	Aya
Alike	Pia
Alive	Murip
Bad	Jak
Bald	Lasang
Bashful	Hy
Beautiful	Diya
Becoming	Marong
Bent	Kowi
Black	Pitam
Blind	Pisak
Bold	Lakin
Bright	Mala
Broad	Brang
Cheap	Lyang
Clever	Haman
Course	Kudal
Cold	Laram
Crooked	Kowi
Customary	Barik
Dark	Lidam
Dead	Matei
Deaf	Madáng
Deep	Dalam
Defective	Hang Hang
Defiled	Lumi
Difficult	Baval
Dilatory	Padara
Distant	Su
Drunk	Mavok
Dumb	Hamang

Dry	Magang	Long	Aru
Easy	Malai	Lost	Pabat
Empty	Gohang	Low	Liva
Enough	Tami	Mad	Buling
Equal	Pia	Many	Liba
Even	Padit	Meager	Nywang
Evil	Jak	Merciful	Limer
Expect	Haman	Middle	Tahang
False	Kalok	Might	Likap
Fast	Kiga	Modest	Hy
Fat	Munang	More	La'an
Feeble	Kangan	Naked	Loang Tua
Few	Ok	Narrow	Jali
First	Aring	Near	Jilang
Fit	Tinang	Neat	Diya
Foolish	Ombak	New	Maring
Free	Jitua	Next	Jilang
Future	Bya	Nimble	Ipat
Glad	Ikam	Noble	Sayu
Good	Saya	Noisy	Nyom
Great	Aya	Numerous	Liba
Guilty	Hala	Old	Aya
Handsome	Diya	Open	Ovar
Hard	Mying	Outward	Tawa
Heavy	Bahat	Pale	Nuwang
High	Bo	Passionate	Laso Kanip
Hollow	Goang	Past	Lalu
Hot	Laso	Perfect	Lim Sayu
Hungry	Lou	Plain	Lani
Ignorant	Magave	Polite	Hy
Improper	Diyan Tinang	Poor	Jak
Indigent	Jak	Pretty	Diya
Innocent	Diyam Hala	Proper	Marong
Kun	Tigam	Pungent	Hanit
Knotty	Buki	Putrid	Muvok
Languid	Ly	Quick	Ipat
Large	Aya	Rapid	Kasi
Late	Dara	Row	Ata
Lazy	Duya	Ready	Ouna
Left	Maving	Red	Bla
Less	Korang	Rich	Kaya
Level	Padit	Right	Marong
Light	Knyan	Ripe	Sak
Little	Kahang	Rough	Patong
Living	Murip	Round	Bilong

Rusty	Higan	Abide	<i>Verbs.</i> Milo
Same	Pia	Abuse	Avay
Scarlet	Bla	Accept	Oukapi
Shallow	Nivo	Accompany	Beh
Sharp	Knat	Advise	Lavara
Short	Bek	Answer	Tagulang
Sick	Prah	Arrest	Sigam
Silent	Milo Tua	Arrive	Atang
Sincere	Lan	Be ashamed	Tehy
Slack	Liko	Ask	Mitang
Slanting	Alan	Assist	Mahap
Slow	Dara	Awake	Mower
Small	Ok	Bake	Noyyo
Smooth	Jilura	Bargain	Tira
Soft	Lima	Bark	Mangang
Sorry	Mahal	Bathe	Doe
Spotted	Kalong	Bawl	Nangi Lan
Strong	Ley	Be	Teh
Sweet	May	Bearfruit	Tubo
Swift	Kiga	Beat	Nukol
Tall	Bo	Become	Murip
Tame	Malai	Beekon	Nyap
Thick	Kapal	Beg	Aky
Thin	Knipi	Begin	Aring
Thirsty	Magang Ba	Behold	Knyngang
Timid	Takot	Believe	Mitch
Tree	Lan	Betroth	Pahawa
Wet	Basa	Bind	Katoug
Valiant	Lakin	Bite	Mat
Uncertain	Diyan Djam	Bleed	Nisa
Unequal	Diyan Pia	Blow	Mahar
Useless	Diyan Non	Boil	Maro
Warm	Laso	Borrow	Ujam
Weak	Ly	Break off	Punang
Weary	Knila	Bribe	Duoya
White	Puti	Bring	Gree
Wicked	Jak	Brush	Mipa
Wide	Brang	Buy	Pavlay
Wise	Udi	Call	Muvoy
Wrong	Hala	Carry	Kna'an
Yellow	Nymit	Cast account	Mujap
Young	Minor	Catch	Sigan
Zealous	Niga	Change	Patoyu
Straight	Tuto	Chase	Live
Mournful	Lumo		

Choose	Mileh	Fast	Ipat, Kiga
Chop	Nitak	Fear	Takot
Circumcise	Knilo	Fight	Panoh
Cleam	Myang	File	Pino
Climb	Nakar	Find	Ala
Collect	Mipang	Finish	Pahna
Come	Ating	Fish	Misey
Comprehend	Djam	Follow	Livo
Conquer	Alla	Forbid	Asam mon
Copy	Nangrua	Forget	Hado
Cover	Nabon	Forgive	Masika
Covet	Mipang	Forsake	Milo Tinan
Cough	Nikar	Founder	Kam
Count	Mujap	Fry	Naga
Crawl	Namang	Gape	Nivanga
Cut	Mitnang	Gather	Pang
Dance	Najar	Get	Ala
Decay	Lala	Give	My
Deceive	Pakalok	Go	Kaka
Delay	Padara	Grit	Parak
Deliver	Hem Teh	Grind	Lani
Decide	Mitnang	Grow	Tubo
Descend	Nili	Halt	Milo
Desire	Mon	Hang	Jat
Destroy	Tasa	Have	Teh
Devour	Nilo	Heor	Naringa
Die	Matei	Help	Mahap
Dig	Knali	Hire	Niba
Disquise	Nangrua	Hope	Kina
Dive	Misar	Inherit	Kalui Taman
Divide	Patular	Inquire	Mitang,
Double	Patibin	Invade	Nasa
Drag	Jat	Invite	Bara
Dream	Nupéh	Iteh	Key
Dress	Nakave	Keep	Nymi
Drink	Dui	Kill	Mamatei
drown	Gnini	Kindle	Avat
Eat	Koman	Know	Haman
Ebb	Mila	Lade	Maso
End, Done	Pahna	Laugh	Kasiang
Enlighten	Malaka	Leak	Pisit
Expect	Kavi	Lend	Mujani
Extinguish	Param	Lie	Pamo
Fall	Lágak	Live	Murip
Famish	Palau	Look	Knyang

Loose	Paday	Run	Lap
Love	Masi	Say	Korin
Make	Kna	See	Knynang
Meet	Pahabo	Sell	Bili
Melt	Nilong	Send	Kato
Mend	Sayuna	Sew	Jinlut
Mix	Pahivar	Share	Patular
Mount	Moan	Shove	Haro
Murmur	Lidah	Sit	Milo
Nail	Patapak	Skin	Blanit
Obey	Tangaran Dyn	Sleep	Tudo
Obtain	Ala	Smell	Bun
Occupy	Tuman	Smoke	Lison
Open	Ovar	Snatch	Nako
Oppose	Piti	Scw	Nugal
Oder	Teh Aim	Speak	Tangaran
Overcome	Alla	Stand	Biti
Overtum	Takala	Starve	Lou
Own	Paju	Steal	Nako
Paddle	Basay	Stop	Naring
Pardon	Masika	Swear	Mamyan
Part	Patular	Sweep	Mipa
Pay	Iay	Take	Api
Perish	Kam	Talk	Taugaran
Please	Ikam	Teach	Cakali
Point	Tujol	Think	Palamana
Prepare	Ouna	Throw	Bat
Promise	Kalok	Tie	Nupot
Pull	Jat	Trust	Kina
Punish	Mukum	Turn	Kaluar
Push	Haro	Uncover	Páovar
Put	Dahy	Understand	Djam
Quench	Param	Use	Tuman
Rain	Usan	Wait	Kavi
Reach	Atang	Walk	Pano
Receive	Oukapi	Weep	Nangi
Reckon	Mujap	Wipe	Mipa
Rent	Nebaka	Wither	Lala
Repair	Sayuna	Wonder	Dimisi
Reside	Milo	Work	Knadoi
Return	Uli	Wound	Gga
Rise	Mower	Yawn	Nivanga
Rob	Nako	Wrestle	Payo
Roll	Lulon	Knot	Tivukang
Row	Basay		

Adverbs.

Here	Hini
There	Hití
Where	Hino
Before	Ona
Behind	Baloung
Upward	Bahuson
Downward	Bahida
Below	Hida
Above	Huson
Whither	Hinopa
Backward	Baloung
Whence	Manino
Now	Mahoup
To-day	Dowini
Lately	Maringka
Just Now	Mahaupini
Long Since	Arupa
Yesterday	Dow Dahalam
Tomorrow	Ji ma
Not Yet	Diyan Pa
Afterwards	Bya
Sometimes	Halak Tesee
Perhaps	Mahapa
Seldom	Mijat
When	Hiran
Much	Kahom
Little	Ok
How Much	Kori Liba
How Great	Kori Aya
Enough	Tami
Abundantly	Kahom
Wisely	Udi
Foolishly	Ombak
Justly	Marong
Quickly	Kiga
Slowly	Dara
Badly	Jak
Truly	Lan Lan
Yes	I
No, Not	Diyan
Not at all	Diyaandipa
How	Nonan, Kori
Why	Nanonan

Wherefore	Non Pohun
More	Láan
Most	Lalu Kahom
Good	Sayu
Better	Lalu Sayu
Best	Sayu Lan
Worse	Lalu Jak
Worst	Jaklan
Again	Rua

Prepositions.

From	Maniti
At	Bara
By	Mutang
With	Dyn
In	Halam
Into	Pahalam
through	Mutang
Out	Habay
Out of	Nymo
Without	Pahabay
On, upon	Huson
Under	Hida
Between	Tahang
Near	Jilang
Beyond	Lawat

Conjunctions.

And	Panga
If	Jivang
Both	Koa
Because	Lavin
Wherefore	Lavin Non
Therefore	Lavin Iti
As	Notí
Though	Barangka
Yet, also	Sica
One	Ji
Two	Dua
Three	Tulo
Four	Pat
Five	Lima

Six	Anam
Seven	Tusyu
Eight	Saya
Nine	Pitan
Ten	Pulo
Eleven	Pulo Ji Whin
Twelve	PuloDua Whin
Thirteen	PuloTuloWhin
Twenty	Dua Pulo
Twenty-five	} Dua Pulo Lima
	} Whin

Koyan Proper Names of Men.

Gong	
Lerong	
Madang	Swift
Koli	Leopard
Hajang	
Sagin	
Tamalana	
Samatu	
Knipa	Serpent
Lijow	Tiger
Dian	Durian
Lidam	
Parran	
Lia	
Batu	Rock
Tuva	Sugar-Cane

Lasa
Owin

Akam. This is a prefix applied to the name of any one who has lost by death one or more of his children, as Akan Lasa, Akan Kinpa. It is more commonly appropriated by the higher than by the lower classes. Laki, the name for man, husband, is also made use of as a prefix to the names of married men to denote that the person to whose name it is prefixed is a father, as Laki Dian Laki Lidam. Like the former word it is chiefly applied to the higher order.

Names of Women.

Tipong	
Jilivan	Snake
Bulan	Moon
Pidang	Flower
Balalata	
Sidow	Day
Lavan	
Lango	
Puteh	Plantain
Buah	Fruit

TOUR FROM SOURABAYA, THROUGH KEDIRI, BLITAR, ANTANG, MALANG AND PASSURUAN, BACK TO SOURABAYA.*

By JONATHAN RIGG, Esq., *Member of the Batavian Society of Arts and Sciences.*

THE town of Kediri is situated much nearer the western verge of the plain, and the group of the Willis mountains, than the ranges of the Klat and Kawi, which form the eastern boundary, and whose towering peaks are only occasionally seen in the haze, at this time of the year. The Gunung Kolotok is an outlying mass of the Willis and between it and the Kediri river, being separated from this latter by a flat of sawahs, a couple of pauls broad, and from the former by a low ridge and valley. It is perhaps not higher than a couple of thousand feet, and it is the parallel of so many subordinate hills which are seen at the foot of the volcanoes of Java. The Kolotok is covered with forest and jungle, and probably derives its name, from its resemblance to an instrument so called, and which is a wooden bell hung round the neck of the buffalo; at least its outline, as seen, more especially by moonlight, immediately suggests the idea; a central eminence rising from the two broad shoulders answers to the part through which the strap or cord is passed. It is in this Gunung Kolotok that is situated the well-known grotto of Sello Mangleng. The kindness of the Resident supplied us in the afternoon with horses to visit this piece of antiquity. A straight road from opposite the Residency leads across the sawahs to near the foot of the hill, and a broad bridle way then conducts through the jungle to the grotto, which is within three pauls of Kediri. On a slightly rising ground, is seen a bluff rock overhung with trees and shrubs, above which towers the Gunung Kolotok. About a quarter of the way up this rock are seen two apertures or doorways piercing the solid rock, each about five feet square, and approached sideways by a rugged ledge of the rock from the northward, and which appears to have been intentionally left in its original rude state. By the two doorways, which are close together, admittance is gained into two chambers which again communicate with each other by an opening in the party wall. The southern chamber is the larger of the two, being 16 feet deep and 10

* Continued from our last.

broad, and high enough to stand up in. To the northern chamber you descend a step and find it a little less than the former. In the southern wall is a square doorway in which may be seen the remains of grooves for doors to work in, leading into an apartment about six feet square, and which gives a sonorous echo to the voice. Corresponding with this, but in the southern wall of the southern chamber, is another opening which is gained by a few narrow and steep steps, which when you first creep into it, appears quite dark, but after awhile, the eye adapts itself to the small portion of light which penetrates so far, and you perceive opposite the opening the figure of a human being rudely sculptured on the back of the rock from which it stands out in half relief. There are thus four compartments or chambers in one row, running from north to south, and all cut out of the solid rock. The two centre ones, communicating with the outer air by roomy doorways, are quite light, but the side ones receiving their light, as it were at second hand, are darksome, and fitted for the retreat of hermit or devotee. At the back of the larger southern chamber is a light projection, and on a pedestal or low altar is still seen squatting with folded legs and hands, a Hindu figure cut from the rock to which it still adheres. It is evidently not a figure of Budha, as has been asserted, but of Siva or some other similar deity, as it wears the usual tiara and has bracelets on its neck, with neither of which Budha is ever represented. The face and shoulders of the figure are thickly plastered with yellow Borch or Ochre, and the remains of incense-burning show that the poor ignorant Javanese still come here to seek assistance in their troubles. The figure is only about $2\frac{1}{2}$ feet high. The walls of this chamber and of the one adjoining on the north, are ornamented by the stone being carved into locks of hair, among which, in the southern one, are seen small representations of human figures in various attitudes but clumsily executed. The ceiling of the two middle chambers is flat and quite black as if covered with a varnish, and though uneven yet smooth, shining and dry. For this I can afford no explanation unless it has been some preparation applied to the rock, either to keep it dry and impervious to the drainage of water, or by its sombre colour to make the place more imposing. It has been suggested that it had been caused by the constant burning of lamps before the images in days of yore, but it is hardly probable that so large a volume of smoke would be kept up as to imbue the rock

with an incrustation of soot which would soak into it and form a permanent dry drust: rubbed with the hand, it communicates no black color, and in the course of three or four centuries, since when we must consider the place as neglected, any matter of this nature would have mouldered and dropped off. The idea that it is a natural deposit of Petroleum or Naptha percolating through the rock, is even more absurd, as some indication ought then to be found of it, on the external mass of the rock, besides analogy does not support the idea. The unsavory odour which is perceived in the grotto does not come from Petroleum but from the bats which nestle in the inner cell's. Here and there a pedestal shows that images have formerly been more numerous in the chambers, and in a piece of flat ground in front of the grotto are several smallish stone statues, which however cannot boast of any great perfection. Out of the south side of the southern doorway is seen protruding the head of a Naga or Serpent cut out of the rock, and as if guarding the approach. From the north side of the northern doorway may still be traced the remains of a long line of inscription, cut upon the outer face of the rock almost as far as it extends in a northern direction; this is above the rugged pathway by which the grotto is approached. It is now very indistinct, and would be quite illegible even were the character understood. The nature of the rock itself has been unfavorable for its preservation, being softish trachyte containing imbedded in it nodules of a harder volcanic stone. The projecting lump of rock is only about 50 feet high and can easily be ascended so as to stand over the apartment below.

Sélla Mangling faces towards S. E. and by E, and being a little higher than the valley of Kediri, commands a pretty prospect of the sawahs near the river, and of the mountains of Klat and Kawi beyond in the distance. It has evidently been constructed with a religious object, and has served as a place of penance to devotees, it is cut out of the solid rock which is rather soft and porous trachyte; very probably some original cavity in the rock was availed of, but even supposing such to have been the case, still a good deal of labour must have been bestowed to bring it into its present state. The execution upon the whole is rude, and does not display any great constructive art. The tradition of the country ascribes its construction to Kili Suchi, who they say was a princess of the royal family of Madjapahit, entrusted with the government of this province. The Regent of Kediri, from whom I had my information, says that Kili Suchi had

this grotto prepared as a place of penance and mortification, and that she herself often made use of it. The meaning of the name is the "Darksome Rock," from *Sello* rock and *Manglóng* dark and secluded. Kili Suchi according to Raffles (vol. 2 page 88) was the daughter of Dewa Kasuma the prince of Janggala, and had been sent for her education and instruction in the religion of Brama, to Kling on the Coast of Coromandel, along with her four brothers; this would give her a date considerably anterior to Madjapahit. The account of Raffles makes her sister of Ami Juhaur who succeeded his father Dewa Kasuma, in the government of Janggala, and who was father in his turn of the celebrated Panji Mokerto Pati, so much renowned in Javanese romance. Kili Suchi was never married, and indeed is said never to have been in a state for it, never having experienced the habit of her sex. This peculiarity is commemorated in her name, as *Kili* in Sanscrit means the menstrual flux, and *Suchi* clean, purified, fine, thus pure of, or undefiled by the flux. My informant did not appear to be aware of this etymology, though he related the circumstance, as having given rise to the name of the whole country over which Kili Suchi presided, and of part of which, viz. that properly called Kediri, he is now the native chief. If the lady herself assumed a Sanscrit cognomen, her subjects called the country in remembrance of her, using words from their own vernacular language, in Javanese *Kédi* implies the stoppage or rather non-appearance of menstrual flux.—*Agiri* is the verbal form of *Diri*, self, and means to set up of ones self, and the two words contracted together form *Kediri*, implying though she was afflicted with the calamity, which natives consider as so deplorable, still her enterprising spirit enabled her to rule over the country and maintain her authority. Kili Suchi appears to have been mixed up with a good deal of the romance of her day. As abovementioned she was never married though often courted and much importuned by the young Panjis for the honor of her hand. The advances of all these she coldly rebutted or evaded. One Panji, however, had importuned her so far that she promised to become his wife, if during the following night he could throw a dam across the ravine between the Wilis and Kolotok, so that in the morning she might sail round the lake so formed. Supernatural power being part of the attributes of all persons of ambition in these days, the Panji accepted the terms and went to work; the day, however, dawned on his uncompleted work; by the still more powerful influence of Kili Suchi,

the dam burst and buried the illstarred Panji in its ruins, whilst an adjoining hill, still called Gunung Prahū (Boat-mountain) situated at the north end of the Kolotok, still commemorates both in name and shape, the remains of the unfinished boat which was to have borne the Pauji and his intended bride on the lake.

Many traces of a Hindu from of worship are to be found in Kediri, consisting of ruins of temples and stone images. The want of time prevented our visiting all that are known and probably many more are still buried in the wildernesses of this residency. One ancient image called *Honcho Guru*, words which imply the "image of the spiritual instructor," is found at the distance of a quarter of a paul south-west from the Fort and Residency; it stands on a little plot of dry ground surrounded by sawahs, and leans against a large umbrageous Ficus tree, which in its growth has begun to envelop part of the statue. The tree though large is evidently not very ancient, and may have been planted here by way of a support. The image is an upright figure of some male Hindu deity, and is about six feet high to the top of the tiara. On either side of it, and cut out of the same stone stands a small female figure, reaching hardly to his hips. Unfortunately the face of the main image has been knocked off, but the ornamented tiara, by which the head is surmounted is still perfect, being the usual shape of a truncated cone. The left arm hangs straight down the side, and the hand reposes upon a Gada or club, the lower end of which stands on a pedestal. The corresponding right arm is broken off, but appears to have been bent at the elbow so that the hand rested in front of the stomach, with the palm upwards. Additional sets of arms appear to spring from the shoulders, but these, and the emblems they most probably bear, are grown over by the body of the tree. Bracelets are suspended from the neck and are seen on the arms; over each shoulder is seen a small projection, something like the tips of a crescent, which as well as the gada, is considered as indicative of Vishnu. A drapery is hung round the lower part of the body. The small female figures on either side are similarly dressed, but their protruding breasts point out their intended sex; their hands repose against the back or reverted under side of the Lotus leaf. Under the shade of a fig tree may be seen some Mahomedan graves set round with loose bricks, and the respect which the natives still pay to the spot, may be judged of from the fresh remains of

incense burning in front of the statue. The execution of the sculpture is very fair but decidedly inferior to that Prambanan or Boro Badur. There is no indication of any temple having ever stood here, but it is not impossible that it had been of brick, or may have tumbled down and the materials been appropriated by the people of Kediri, hard by.

In the garden of the Residency is a collection of images brought together from various quarters, but being no longer in their original locality, they of course lose a great deal of circumstantial interest. The images are mostly small, few being three feet high, and mostly only about two. Amongst these I observed only one representation of Budha with the curly hair on his head, the only specimen of the kind I have met with to the eastward of Solo. It is a small squatting figure about two feet high. There is a pretty good Nandi or Sacred Bull, and the representation of the neck and head of a Naga or Serpent, the only one I ever met with.

The Dalam of the Regent is situated at the extreme southern end of the town, a good paul from the bridge over the river, from which however, it is not far removed, as the town extends along the bank. This dalam, as is the case with most of those at this end of the island, is approached from the east side of the Alun Alun, whereas the Sunda chiefs invariably have their dwellings on the south side of the plain, as is also the case with the Palace at Solo and Jugjo. It was the early part of the day when we paid our respects to the regent of Kediri. We found him busy laying out a garden, which he was doing with the assistance of a gang of villagers, and a copious stream of water, so that we had some difficulty in getting at him seated under the shade of a tree. He was "en negligé" and attired in a sort of European sporting coat. Having formerly served as an officer in the Dutch cavalry, his old trusty sword is carried about after him by an attendant. Radin Mas Adhipati Ar o Joyodi Ning Rat is a middle aged man, and received us very friendly. A son and a daughter, evidently a great favorite with her father, were doing duty as pages, and had charge of the beetle and tobacco box; segars were presented and he sat in familiar chat for half an hour; the conversation on my part being directed towards the antiquities and legends of the country, whilst the great man, ever and anon, kept breaking off to the subjects of dogs, and horses, a large spirited specimen of the latter being brought from his stable to gratify our curiosity, and at the same time redound to the consequence of his master. From his capaci-

ous Siri box, the Regent produced, what to him at least appeared to be a great treasure, viz. a bit of old rust-worn iron that had formerly been a kind of knife, and to which a nice new orange-wood handle had been fixed, and a bit of the blade rubbed to a sharp edge. This had been picked up amongst the crumbling rubbish of an old wall near the graves of some of his ancestors, and is of course a highly prized relic. It stands a good chance of going down to posterity along with the Cavalry Sword, as an heir-loom in the family of the Regents of Kediri. In his younger day, the Regent had spent a good deal of time to the westward, when he had learnt the Sunda language, which he still retains, very fluently, and at which we had a spell before we parted.

On our way back from this visit, we stopped to see the menagerie, which is a large strong wooden cage, roofed over, and standing on the bank of the river. It contained one large fierce tiger royal and two or three spotted ones. As his highness was lolling very indecently with his posteriors cooling against the bars of the cage, I took the liberty of giving him a poke with my stick, to which indignity he responded with a most furious and awe-inspiring howl, but a steady gaze on his fiery eye soon made him blink and roll his head aside; the tiger is easily stared out of countenance, and yet it would require some nerve to do so, if face to face with him in his native jungle.

Proceeding along the main street of the town we stopped again, near the centre of it, to inspect the *Astana Gédong* or an ancient burying place of the nobility of Kediri. Admittance is gained to the place through a gate-way built in an old fashion, and composed of regularly hewn and squared trachyte rock, such as are used at the Hindu temples, some of which may have been plundered to supply these materials. On entering, in front of the gateway, is a platform about 8 or 10 feet high, which formerly served for the foundation of a mosque, which has long ago disappeared. It has been a work of some care as may be still seen. It was built up all round with a softish white stone, ornamented with plain grooving and rosettes, but has now in many places crumbled down. At the back or western side of the platform are numerous graves, set round with bricks and stone and quietly reposing under the old Kamboja trees (*Plumeria accuminatá*) whose yellowish flowers strewed the otherwise clean swept ground. The high nobility repose at the north west angle of the former mosque, and are covered over with little wooden houses placed in enclosures the doors of which

are kept locked. Here the Regent's family find their last abode.

Kediri was one of the new residencies formed in 1830, at the close of the Java war, it having hitherto formed part of the conjoint territories of the courts of Solo and Jugjo, but was now, with other districts, brought under the immediate dominion of the European Power. The population in proportion to the superficies of the Residency is still small, but has increased considerably with the rest of Java, since the restoration of peace, and regular, quiet government. The population in 1832 was made out to be 184,876 souls whilst in 1845 the figure has risen to 235,243. It has of course been necessary to introduce the government forced system of cultivation more cautious than in other parts, coffee and indigo having formed the chief objects. The only contracts for sugar have been hitherto in the hands of a Chinaman, who has in the Residency 10 small cattle mills producing together about 20,000 piculs. The Chinaman is now anxious to get a new contract from Government, by which one large establishment worked with a water wheel should supersede all the rest, but it appears his project is not favorably received at head quarters, where the policy now-a-days rather leans towards the exclusion of this class of contractors. The cultivation of sugar, however, Government are about to encrease in Kediri, and for that purpose are giving up some of their indigo establishments in the Regency of Bérbék where they have lately granted to Mr Blankenhagen a large contract for the manufacture of sugar, and where he will have to grind canes in 1849.

We were detained two days and two nights in Kediri, as the controleur of Blitar, who happened to be at the provincial capital, had to return before we could get the use of the post horses, or before we should be able to find any one to assist us in procuring the needful for our journey. Soon after day light of the 23rd June we started for Blitar, the next object of our visit. The road leads southward up the valley of Kediri, and along the eastern side of the great river, though it is not seen except close to the town. The greater part of the first 16 miles is through a forest of dadap trees which shelter the coffee, or else through the original jungle and wilderness, where numerous gangs of the Lutung monkey chatter as you pass. This confined state of the road makes the journey rather dull, as you do not get even a distant view of the mountains. The road runs on a very slightly rising plain, the whole way, passing through the district of Jambéan, till at the post station

Podjok near the 97th Paul you reach the district of Rowo. Several streams cross the road in their way from the Klut to the main river, and would no doubt afford a ready means of forming rich sawahs, were there sufficient population to clear the jungle and profit from the fruitful soil.

A little beyond the 100th paul we came out upon the main river, with a bridge over it. The road which we had passed, for some distance had been running in a straight line, and is now continued over the bridge in the same straight line, as far as the eye could reach, and appears to fade away in the distant vista of dadap trees, which still indicate the presence of coffee gardens. Four pauls beyond the bridge is Tulung Agung, the station of an Assistant Resident, who has charge of the southern portion of the Residence, consisting of the Regencies of Ngrowo and Frengalek. The bridge over the river is a remarkable one and deserving of notice. It is what is called an American Bridge, so called from its invention in the United States. It is entirely composed of small timber, the largest beams, being only about 8 or 10 inches square, are those on which the carriage way is laid, and which are fixed into the frame work of the sides. Each of these is a trellis work of double planking set diagonally and securely bolted at the places of intersection. The sides are of equal height, about 10 feet, along the whole length of the bridge, and are connected by a roof which preserves the materials from the weather. The bridge rests, at each end, on stone abutments built up on either bank, and spans the river with one unbroken mass of frame-work, which though to appearance light and frail, still from the nature of its construction, is calculated to afford a great resistance from the manner in which the pressure is divided. The bridge is 46 paces long by $5\frac{1}{2}$ broad or say 128 feet by $15\frac{1}{2}$; seen end way from the road, it looks like a tunnel or huge trellised packing case, with both ends out. The date of 1843 inscribed over either end tells when it was built. The carriage way is as level as a table, and of the same height as the high roads which it serves to unite. Near the northern abutment on the up-per side it has sank a very trifle from the true level, but this is not perceptible without examining the bridge sideways. The young man who constructed this bridge belonged to the civil engineer department of Java; it was however his fate not long to survive the completion of the work, and he has long since passed to other scenes. His name was Hein, and it ought to be engraved on the bridge, with the date. The river is here found coming from the E. S. E. and is thus running in a direction different

from what we have lately known it. We were informed that about two pauls below the bridge, it receives the water of the Kali Bëning coming out of Rowo, and then commences its course northward through Kediri. The Kali Bëning is much the smaller of the two and in very dry weather is reduced within small limits. The river at the bridge is called Kali Ngujang a name which it retains till the confines of Malang, when it is known as the Brontas. We found the Ngujang deep, clean, and rapid, with the water way sunk within a channel of some 40 feet broad, leaving the abutments of the bridge, on either side, on the dry bank, thus plenty of room is allowed for the rising of the river in times of floods. The banks and bed of the river still consist of alluvium and soil, no rock or even chadas (indurated tuff) has been laid bare, and though 100 pauls from the coast we are still in a flat country little elevated above the sea. We observed some rafts of timber guided down the stream, which passed rapidly away, to track boats in the opposite direction would be a difficult matter.

Instead of passing over the bridge, our route turned off at right angles and lay up the right bank of the Ngujang. This however we soon lost sight of, and though travelling in its direction all the way to Blitar, we saw it no more. The country is a wilderness till near Sringat, 12 pauls further on, consisting of thick tangled jungle where few forest trees remain standing, dense fields of glaga and here and there a small patch of sawah with a hovel or two, apparently settlements of recent date; the still green paddy bespoke the richness of the soil it grew on, indicating what a population might here find subsistence should it spread and multiply in this direction. The districts of Sringat and Bletar form two Widonoships, each answerable immediately to the authorities in Kediri, being managed under a system of forbearance, different from the rest of the residency. The meagerness of the population in these fine districts will be seen from the population returns of 1845.

Blitar	has	on 600 square pauls	12,602 souls	or 21	to the square paul.
Sringat	on 125	"	"	4,575	" or 37 "

(To be Continued)

THE LANGUAGES OF THE INDIAN ARCHIPELAGO.

A SYSTEM OF CLASSIFICATION AND ORTHOGRAPHY FOR COMPARATIVE
VOCABULARIES.

THE first step towards elucidating and comparing the languages of the Indian Archipelago is the adoption of a settled mode of arranging and writing the words of which they consist. This may seem an easy matter, and it is so if we are satisfied with any arbitrary method that suggests itself, or has been used for other groups of languages. But if we seek one that is natural, and adapted to the peculiar character of the languages with which we have to deal, we shall find that the task is as difficult as it is important, and that a system combining simplicity with freedom from errors and deficiencies, cannot be attained without the application of much more labour than has yet been given to the subject.

To facilitate the comparison of the Malay with the other languages and dialects of the Archipelago, we some time ago arranged the vocabulary of the former under the usual grammatical classification of nouns, verbs, &c. preserving an alphabetical order in each class. In the progress of this work we were made practically aware of its many disadvantages both intrinsically and with reference to the purpose we had in view; but, unwilling to sacrifice what had been accomplished at the expense of much time, we persevered until we had completed a large portion of our task. When we then attempted to use this portion in forming vocabularies of unwritten languages, we discovered that it rather retarded than aided us. Seeing therefore that, in the long run, we should lose time by continuing to use it, we did not hesitate to discard the fruits of our previous labour and begin anew on a better foundation.

To shew the imperfection of a merely grammatical system of arrangement, particularly for the languages of the Archipelago and Polynesia, we need only observe that in these languages, words do not appear to have originally existed under the three-fold form of nouns, adjectives and verbs. This verbal simplicity has been preserved by many to a large extent, and even in those in which the distinction of forms is most artificially and systematically observed, it has so little penetrated and sunk into the substance of the language, as to be still clearly recognized by the people themselves as something superficial and superadded. In all languages a multitude of ideas must find expression in all three forms, but the word appropriate to each form often presents itself as an independent symbol to the illiterate. But

in the class of languages in question those connections which, in many other classes, are frequently appreciated by the educated only, and of which a correct knowledge is sometimes even confined to philologists, are familiar to every individual. The artifices by which modifications of grammatical form are produced are still so external and glaring that they are neither hidden themselves nor serve to obscure. They are a common property to learned and unlearned, and the child appropriates and uses them with as keen a sense of their distinctive values and functions as he acquires of any substantive words. In most cases they are simply stuck on to the words which they modify, and when they are fairly engrafted or mortised, the excision necessary to effect this, is so slight and so uniform, that the original shapes of the component words are seldom lost sight of. In the Malay, for instance, words were not primarily distinguished in their form as verbs, nouns &c. nor were there any grammatical indications of time, mood, &c. The degree of artificial structure which this language has received has not been carried so far as to obliterate or even conceal its original and essential baldness and simplicity. The word itself indicative of the primary idea still stands out naked and unaltered under nearly all grammatical variations. By particles prefixed and suffixed, by adverbs and by reduplications, the means of distinguishing the nominal, qualitative and assertive forms of a word, and of denoting voice, mood* and tense† have been supplied; but even in composition the writer occasionally dispenses with them and expresses himself in the old and rude method; the under current of ideas which guided his pen being supposed to be reproduced in the mind of the reader, so as to bear him on without the necessity of constant grammatical aid. A highly cultivated language becomes, in written compositions, at once very complete and very artificial. This reacts to a certain extent on the oral language, which, in grave discourse, assimilates closely to the written, but in common conversation retains more simplicity. In a little cultivated tongue the written language leans more on the oral. It has not so much departed from it as to be complete in itself and independent of the aid of the voice. The oral therefore must be studied in order to understand the real character of the written. Mr Marsden's grammar is chiefly defective from this

* As transitive; intransitive including (a) active (p) passive (c) active and passive combined or reciprocal; causal; intensive.

† The Malay verb not only distinguishes the ordinary relations to time, i. e. present, future and several degrees of past, but also frequency, continuity and permanency of action.

cause, that the Malay is in the condition which we have indicated, and he has neglected the colloquial language, and the laws of sound under the influence of which it grew to its present state.

It will be seen how unsuited to such languages in particular, any arrangement must be which arbitrarily isolates substantives, adjectives, verbs, and adverbs from each other.

Those who know how soon an illiterate native becomes wearied and impatient when communicating words for a vocabulary, will understand the difficulty of maintaining for a few hours together and of renewing from day to day, his attention and interest, when the object sought is not a list of a few hundred words, but a whole language comprising several thousands. Now an alphabetical and grammatical arrangement increases the difficulty tenfold by rendering the task as abstract, unnatural and fatiguing to his mind as it is possible. No sooner has his attention, often with much trouble, been directed to a certain idea, and the word expressive of a particular modification of it written down, than his mind, still occupied with the connected ideas and desirous of communicating them, is required to discard them, and fix itself on something else with which they may have no associations whatever. Painful experience has taught us that the only successful method is to give free play to the natural current of ideas, and make the writing down of words as nearly as possible a full copy of the pictures which our inquiries successively evoke, in the mind whose verbal riches we seek to extract.

Impressed with these facts, we proceeded to devise a more natural system of classification, but soon found that what seemed sufficiently easy in principle abounded with difficulties of detail. We sought in vain for any dictionary constructed in accordance with such a system, and the imperfections of our first draughts satisfied us that a thoroughly scientific arrangement of a whole language, was a work demanding much more time and labour than we could command. One difficulty is indeed insurmountable. Under any conceivable system many words will appertain to more than one class, and as, for comparative philology, it would be only a waste of space to repeat them, they must be arbitrarily confined to one class, which will leave one or more of the remaining ones somewhat maimed. Words which have distinct meanings, as unfortunately too many have in most languages, must of course be repeated in different classes or subdivisions. After recasting our classification several times, we adopted one which we have found

sufficiently accurate and natural for our purpose, and we therefore venture to recommend it to the attention of those of our readers who are disposed to co-operate with us, in the all important labour of exploring the languages of the Archipelago. This labour, uninteresting and unfruitful as it may seem to those who have not engaged in it, is not only the essential basis of all sound and comprehensive knowledge of the races and tribes of the Archipelago, but, when pursued in the true direction, and with some acquaintance with the principles and aims of comparative philology, is really one of the most fascinating to which a sojourner amongst the eastern islands can addict himself. Many other subjects of research of less importance can only be entered on with advantage after a training of some severity, and to the isolated inquirer are attended with expense for instruments, books and means of travelling, which few can afford. But the elucidation of the languages spoken by the natives amongst whom we live, can be undertaken by every one who is inclined to do so. The extremely meagre, ill-arranged and careless character of most of the vocabularies which have hitherto been furnished arises, we must suppose, from an impression that the labour of making them as full and perfect as circumstances allow, would not be appreciated. To aid in removing this very erroneous idea we shall from time to time give extracts from recent publications in England. It is greatly to be desired that the Ethnological Society, British Association or other competent body in England would adopt, print and give currency to a complete vocabulary arranged under a natural classification, with blank columns for new languages. In the hope that this will not long remain a desideratum we would meantime suggest to our contributors the adoption of our classification, or any better one that may occur to them, and we would most earnestly request of them that when they do not adopt the orthography recommended in the sequel of this paper, they will invariably prefix to all vocabularies or lists of words with which they may favour us, be they of tens or hundreds, a table shewing the power of each letter used by them. We need not insist on the necessity of adding a sufficient number and variety of sentences to illustrate the grammatical character of the language.*

* Since our vocabulary was constructed we have seen one based on similar principles, published at Calcutta in 1847, by Mr Hodgson, and as he appears to desire suggestions for its improvement, we venture to offer the following which occur to us on comparing it with our own. He thinks it is "too large and too difficult." It appears to us not to be large enough, and that the difficulty may be removed and the bulk diminished by a more natural classification. Nouns, adverbs, adjectives, verbs &c. are entirely separated, the consequence

A provisional system of Classification for Comparative Vocabularies of the Languages of the Indian Archipelago.

A. *Words applicable to material substances generally (physics.)*

- Class 1. to bodies at rest (geometrical properties, extension, form, size, position, &c.)
 2. to bodies in motion, and time (motions, forces, changes, periods, succession of events &c.)
 3. to sound.
 4. to light and colour.

B. *Words appertaining to natural history (excluding man.)*

5. to physical geography, geology, minerals.
 6. to hydrology.
 7. to the atmosphere and astronomy.
 8. to vegetables.

- a. names of trees and smaller plants yielding edible fruits and seeds.
 b. cultivated plants yielding edible leaves, stems, roots, extracts, spices, condiments
 c. plants cultivated for their flowers.
 d. small uncultivated plants (herbs)
 e. forest trees and shrubs including those yielding timber and other materials for the arts *
 f. plants yielding medicinal substances.
 g. trees and plants yielding dyes, gums, oils (non edible,) poisons.
 h. words relating to vegetables.

9. to animals (excluding man.)

of which is that a large number of the words which are given as nouns necessarily reappear in a distant place as verbs, and many not even changed to a verbal form, but merely having the words indicative of "to do," "to be," "to become," "to give," following them. The same order is not followed in arranging verbs and nouns. The classification of the nouns, upon which most pains appears to have been bestowed, is good; but, owing probably to the different classes not having been distinctly defined before the vocabulary was written out, and to the principle of association being sometimes too artificial, occasional awkward juxtapositions, and even repetitions of the same word, occur. Apart from the main defect (as we consider it) of adopting a grammatical arrangement, these slight blemishes are hardly worth pointing out, as they will doubtless be perceived and remedied by the author himself, before he embodies the results of his present extensive and vigorous researches into the aboriginal languages of India. It sugurs well for the progress of ethnographical philology in the east, when men of his varied and profound acquirements devote themselves to it.

* Many trees in this class which are chiefly valuable for their timber produce edible fruits also.

- a. mammalia.
- b. birds.
- c. reptiles.
- d. fishes.
- e. mollusks, crustacea.
- f. insects, corals, sponges.
- g. words relating to animals (excluding those applicable to man also, which are included in class 10)

C. *Words relating to man generally.*

- 10. to the human body.
 - a. anatomically.
 - b. sensations and appetites.
 - c. diseases.
 - d. purely animal acts and functions.
- 11. to the mind.
 - a. intellect.
 - b. emotions
 - c. ethics, and other purely mental ideas not falling under a & b.
- 12. all words appertaining to man in general and not embraced by 10 and 11 (ex. gr. those expressive of his action on himself, on other men, their action on him, possession, personal and possessive pronouns &c.)

D. *Words appertaining to human society, and particular arts and avocations.*

- 13. to what directly concerns the care of the person.
 - a. to food and cooking.
 - b. to dress, ablution, &c.
 - c. to houses.
 - d. to furniture, utensils, &c.
- 14. to religion.
- 15. to family and social relations.
- 16. to government.
 - a. to kings, highest functionaries, subordinate ib.
 - b. to civil law, administration of justice, police, crimes and punishments.
 - c. to territorial divisions, public works, revenue.
 - d. to military matters.
- 17. to social and domestic usages, customs, habits, &c.
- 18. to sciences and fine arts.
 - a. to arithmetic, coins, weights and measures.
 - b. to division of time.
 - c. to writing, literature, education.
 - d. to painting, sculpture, carving, music, &c.
 - e. to medicine.
 - f. to other sciences and fine arts.

19. to arts, manufactures.

- a. to arts and trade generally, or common to all arts;
- b. to several particular arts.
- c. to agriculture and the care of domesticated animals.
- d. to navigation.
- e. to the capture of wild animals (fishing, hunting, &c)
- f. to mining, workers in metals and precious minerals.
- g. to workers in other minerals and in hard vegetable substances,
(wood-cutters, carpenters, brick-makers, quarrymen, builders, potters, makers of wooden plates and receptacles &c)
- h. to workers in soft substances, (makers of mats, cane-work, baskets, &c., thread, twine, ropes, cloth, leather, &c.)
- i. to workers in plastic and liquid substances, (wax, gums, dyes, oils, liquors, &c.)
- k. to other trades and occupations, (barbers, butchers, &c. &c.)

20. proper names.

- a. persons alphabetically arranged.
- b places (ib.)

In each class and subclass we have also adopted a settled order of arrangement, by considering it as divided into distinct groups, and giving to the words composing them a natural sequence, our great aim having been that every word should as nearly as possible occupy that place which is most appropriate to it. These subordinate groups we have not thought it necessary to indicate above, as it would be impossible, by any minuteness of division, to enable those desirous of co-operating with us, to ascertain the exact relative place or number of each word in a class or sub-class. Entire uniformity can only be secured by the publication of such a work as we have suggested by a competent society. Even if we were able to print our Malayan Vocabulary, and give it a thorough revision so as to improve its arrangement, we would be withheld by the fact that it is not sufficiently complete. It contains all the words in Marsden's Dictionary and about 3,000 in addition, but, as we are constantly getting fresh accessions, we cannot yet offer it as a basis for the comparison of the languages of the Archipelago.

The compilation of a complete vocabulary can only be undertaken by those who are brought for a considerable period in contact with individuals of the race who speak it. But all whose intercourse with them is limited to a few days or even hours may note down some hundreds of words with little labour, and these, where the language is new, will be highly valuable. Specimens under each class should be included,* and the observance of a settled system of classification like the above, in preference to putting questions at random or upon

* Synonyms are usually neglected. *They are indispensable.*

any rough system occurring on the spur of the moment, will be found greatly to facilitate the process of interrogation both to the querist and respondent. An abridged well-selected list, not exceeding a thousand words, would greatly assist the traveller.

ORTHOGRAPHY.

Many systems of orthography for the exact expression of the sounds occurring in Eastern languages have been proposed and used by different writers. It is obvious that in a matter which is arbitrary, the taste and fancy of each scholar may take exception to any scheme that can be propounded. At present every writer is at liberty to follow what pleases himself, and the consequence is that those who begin by taking the trouble of understanding the systems of others, end by inventing new ones; while most writers, ignorant and careless of all systems, mangle words and stifle sounds, each after a variable and often rude fashion of his own. It cannot be expected that travellers will forego this prerogative, until some authoritative body of philologists promulgates what we may term an ethnic alphabet, or rather an alphabet for each natural family of languages. But as it is not likely that this task will soon be undertaken, nor perhaps desirable that it should, it will be useful to inquire whether the arbitrary variation of orthography cannot be checked in some measure by attention to a few rules, the reasonableness and propriety of which will be recognized by all. The most obvious seem to be, 1st, that the Roman letters unmodified should be adopted as far as they extend; 2nd, that when these are not sufficient, the accentual and prosodial marks in common use should be first availed of, as far as possible, to increase the number of symbols; 3rd, that any new signs which it may then be found absolutely necessary to introduce should be of the least strange and obtrusive form; 4th, that the most common sounds should be expressed by the unaccented and unmodified letters; and 5th, that the different tones and modulations of simple sounds should be denoted by diacritical marks. To these rules, which have for their object the preservation of the Roman alphabet from unsightly excrescences and incongruous additions, and the adaptation of our systems to every fount of Roman types, we think most other considerations ought to yield. Subordinately to them, it should be made a rule, 6th, to adopt, in all arbitrary matters, any practice that has gained a considerable prevalence, or been recommended and adopted by philologists of eminence.

The 4th rule is one on which the preservation of simplicity and uniformity, and the avoidance of an extraordinary and inelegant typography, mainly depend, but it will not always be consistent with the extension of one system over many languages, because the sounds that are most common in one may not be so in another. While therefore the above rules may be always fully carried out in dictionaries, and works confined to particular languages, it will not be possible, in all cases, to do so in a system for a family of languages, without some deviations from the orthography that may be advisable for certain of its members. The system for the family, will always, however, be that for the majority of the members, because it will be drawn from their vocal character.

The characters of the Roman alphabet furnish symbols for all the most common sounds of the known languages of the Archipelago, and the majority of the other sounds may be considered to be modifications and combinations of these. For the expression of each kind of modification a fixed mark should be adopted, and as the degrees of modification are very great, and are not capable of exact expression save by the voice, each of these supplementary marks should indicate not so much a rigidly determinate and unvarying sound, as the change in the sounds of the letters produced by certain definite actions of the vocal organs. Thus there should be a guttural sign to indicate a deeply guttural pronunciation of the gutturals, and a guttural one of the others which are susceptible of it. These signs should be of such a nature as to admit of being doubled to intensify their sounds, although this will only require to be resorted to in comparative philology, and should be reserved for cases of very marked excess above the ordinary degrees of strength.

The following scheme, although recommended for adoption in vocabularies &c which may be sent for publication in this Journal, is entitled provisional, because it may be found advisable to modify it when our knowledge of the languages of the Archipelago becomes more extensive and profound. This however is not likely to be the case, as, while aiming chiefly at the expression of all the sounds of the principal languages, we have had in our view many of the others in different parts of the Archipelago.

Vowels.

The great difficulty occurs in the discrimination and representation of the vowel sounds. We have been anxious, as far as possible, to extend to the Archipelagic languages Sir

William Jones' system for the expression of Indian, Arabian and Persian words. He had a better recognized right to dictate in arbitrary matters than any single philologist, although superior to him in knowledge, is likely to have again; his system is also a good one, and was not recommended to others until long experience had satisfied him of its convenience; it has also been extensively followed by English orientalists since.

These considerations induced us, at the commencement of our labours, to recommend an adherence to it on the part of our contributors, but a subsequent more enlarged acquaintance with the vocalic characters of the languages of the Archipelago, has satisfied us that Sir W. Jones himself would not have extended it unmodified to them. Its literal application to languages having a different vocalism from those which were the subject of his studies, violates the very principles upon which it was constructed. These principles, if sought in an examination of his scheme of orthography and the examples which he gives of its application, rather than in his own dissertation, will be found to involve almost all the fundamental rules which we have suggested. The specimen which he gives of Sir C. Wilkin's method, perfect as he considers it of its kind, contrasts so strongly with his own simpler orthography of the same passage, that we cannot fancy his approving of the use of the latter for a language like the Malay, which it arrays in lines of bristling accents even more formidable to the eye than the flat prosodial marks of Sir C. Wilkins. This will be made to appear still more improbable by a direct comparison of the Sanskrit alphabet with the Bugis, which has evidently been composed or remodelled by Hindus to whom the system of the former was familiar. In the Devanagari every consonant ends in an inherent vocalic sound, which is consequently the most common vowel in the Sanskrit. This vowel Sir W. Jones represents by an unaccented *a*, thus fulfilling one of the most important of our rules, the very one too which renders his orthography so much simpler than Sir C. Wilkins'. In the Bugis also every consonant has an inherent vowel, but it is the sound which Sir W. Jones indicates by *à* and *á*. This is the case too with the Batta alphabet; and in the other principal languages, and, we may safely assume, in nearly all the others, the *a* occurs most frequently in the tone which Sir W. Jones indicates by *à* and *á*. A reference to the example which we have subjoined of the application of his system to the Archipelagic languages will make this more apparent.

The languages of the Archipelago begin to be emasculated about the 115th degree of longitude, or on the western shores of Celebes and the adjacent eastern coast of Borneo, and the island of Sumbawa. Up to this limit the more consonantal languages of Sumatra, Java, Borneo* and the Phillippines exist in full vigour, although all possessing a strong vocalic tendency. In the western languages of Celebes the terminal *ng* and *k* are preserved, the double letters *nk*, *mp*, *nr* and *nch* are added to the alphabet, and the consonants, particularly the liquid *r*, *l*, *n*, are strongly intonated, but they all pass into full vowel sounds, the *i*, *a*, *e*, *o*, or *u*, terminating nearly every syllable. It is this decided character which renders the Bugis the most musical and harmonic of all the languages of the Archipelago. It possesses a fullness and vitality of sound, a mingled sweetness and strength, which no others do save those nearly related to it. In reading it each breathing carries the voice over five syllables, of which the first three have the tone natural, the fourth elevated and prolonged, and the fifth further raised but short. In the south eastern parts of Celebes and its islands, and in the Timorean chain, the terminal *ng* and *k* are rejected, the vocalic change is in other respects complete, and we seem to be already in the heart of Polynesia.† It is obvious that unaccented characters are absolutely necessary to express those vowel sounds which form almost every second letter, in the numerous dialects which exist in this portion of the Archipelago.

Mr. Marsden's method of writing Malay words approximates in simplicity to Sir W. Jones' Indian system, but it is not uniform, nor sufficiently exact. In practice he expresses the *á* of Jones by the unaccented *a* of the European continent, although in his scheme he also uses the short prosodial mark for the same purpose; but in representing the two other principal vowel sounds, he uses accents, while still adhering to the continental pronunciation. It is a foretaste of the somewhat careless orthography which we detect in the body of his Malayan Dictionary that, in explaining his system, he omits the most common sound of the second vowel, the *é* of Sir W. Jones (Preface p x). In the Dictionary we commonly find *e* for

* The Bornean dialects have a strong tincture both of the Phillippine and Sumatran languages. Madurese and Javanese have spread into them from the south.

† Many emigrants from Bntan (Buta according to them) Ende &c. who have resided for years in Singapore still give their native vocalism to the Malay. Thus the words *banya orang suda pulang*, which the Bugis finds in full accordance with his own vocalism, are pronounced by them *bana ora suda pula*. *Pisang di makan kambing* becomes *pisa di maka kambi*.

this. Two modes of expressing another sound of this vowel are given, and the sound is not correctly defined. His orthography of the third vowel has two faults. It gives a prosodial mark to the most common sound of this vowel in Malay. It gives two characters to a second sound, and does not distinguish between this and the preceding sound short.

The defects of the scheme appear to arise from Mr Marsden not having critically attended to the pronunciation of the weak vowel sounds when in Sumatra, or having lost his familiarity with them when he compiled his dictionary in England. He evidently intended to express the short sound of all the vowels by an uniform system of double representation, the simple letter and the short mark of quantity. Unfortunately, to those who can listen to the language as read and spoken by Malays, this uniformity vanishes.

In the system which Mr Crawford has proposed in this Journal he, like Mr Marsden, adopts the Continental pronunciation of the vowels, but he avoids the error of giving two symbols for the same sound. His scheme however is imperfect in not affording the means of sufficiently denoting the different sounds of each vowel. The only instance in which any other beside the principal sound can be expressed is the *a*, the short sound of which he denotes by *á*, thus reversing Sir W Jones' method, and forcing the acute accent to perform an office very alien from its usual function.

The system adopted by most Dutch writers on Malay is we believe the same as that used by Van Eysinga in his *Malayan Grammar and Dictionary*.* With the exception of one or two Dutch peculiarities, it nearly agrees with the orthography generally adopted by Continental philologists for Asiatic languages. The long sound of the vowels is marked by the angular circumflex, and the short by the unaccented letters. The illustrious Professor Bopp applies this mode to the Malay and Polynesian languages in his "*Verwandschaft der Malayisch-Polynesischen Sprachen mit den Indisch-Europäischen*." A system adopted by the greatest philologists of Europe, and likely to be generally known in England through the translation of the *Comparative Grammar* of this most philosophical and profound analyst of languages, would have superior claims even to that of Sir W Jones, if our choice were to be controlled by authority instead of being guided by convenience.

The careful examination of these different orthographies,

* Werndly, who preceded Marsden as a grammarian, and anticipated him to a large extent, does not use any accents.

each possessing many merits, and all illustrating the true principles on which our systems should be based, ought to suggest a scheme at once more simple, more uniform and more complete in the expression of vowel sounds than either. In the following attempt we do not presume that we have succeeded in this to any considerable extent, and we are aware of defects for which no remedy occurs to us. Our present object is fulfilled if we have obtained a means satisfactory to ourselves, of writing the languages of the Archipelago, and making ourselves intelligible to our readers. At the same time we hope its simplicity will recommend it to other writers in this Journal.

In the three principal languages of the Archipelago, Malay, Javanese, Bugis, the most common vowel sounds are the Continental a, i, u, o, and e, which, with Mr Crawford, we think ought to be expressed by the unaccented letters. The common sounds of all the vowels admit of being contracted and lengthened, elevated and depressed. The short and long sounds occur in all the languages of the Archipelago and are generally invariable in each word, although often shifting for grammatical purposes, according to euphonic laws. The elevated and depressed tones are also found in all the languages of the Archipelago, but they are not so essential as the others. They are however equally necessary to indicate the actual sounds of each language, and in comparative philology indispensable. The Archipelagic languages border on, and are allied to, the monosyllabic languages of the Hindu-Chinese countries, in which the tones are absolutely essential, since the meaning of a word alters with the tone.* The only successful attempt to express the tones of any of these languages of which we are aware, is that used by the Roman Catholic Missionaries in Cochin-china. It appears to be so good and so complete that we shall adopt it with some substitutions. The short and weak sound in every case we would express by the short prosodial mark. Mr Crawford dispenses with diacritical marks indicative of quantity or accent, upon the ground that the vowels are "long and short, or more correctly accented or unaccented according to their position in a word." This however is not always the case even in Malay, and we think one mark is necessary for each vowel to express the long and broad sounds often found in Malay, and which are characteristic of some dialects. In treating fully of any particular language exclusively, marks of accent and quantity need not in many cases be used, because all who are

* The Malayo-Polynesian languages have a few instances of this.

sufficiently interested in the subject to read the essay or use the dictionary, will take the trouble of attending to the few simple rules on which correct enunciation depends. In the comparative philology of the Archipelago, in which we draw results and adduce illustrations from numerous languages and dialects, with many of which the reader may be totally unacquainted, these accentual and prosodial marks cannot be dispensed with. In geographical and ethnological essays they are also necessary.

Our scheme, like all those which adhere to the Roman vowel symbols, is one of accommodation and compromise. We deprecate the assumption by individuals of the power of inventing new letters. All such invasions of our time honoured A. B. C. must fail of success, until philology becomes at once more scientific and more popular, and national prejudice less strong, when we may hope to see a phonetic alphabet adopted in Europe.* Those only who have compared a considerable group of eastern languages with each other, and with the more current European languages, in their vocalic sounds, can appreciate the labour and difficulty of correctly ascertaining and classifying these sounds, and the hopelessness of expressing them by the letters of the Roman alphabet. So long as we must do so descriptively instead of symbolically, our progress in this rudimentary portion of philology will be unsatisfactory. Let it not be thought that we advocate a too microscopic investigation of the elements of language, or seek to trace natural laws beyond the limits where human caprice shuts them out. We have a deep persuasion that we cannot err on this side, and that the only reason why there does not yet exist a science of language is, that very few of its cultivators have applied to it the keen observation and exact discrimination of facts, which have furnished the basis, and the sound and severe methods of generalization which have built up the fabric, of the natural and physical sciences. It is only by a minute analysis and comparison of the elementary sounds and vocal laws of each language in a group like that of the Archipelago, that we can understand those numerous and often complicated or obscure metamor-

† We see a phonetic newspaper is advertised in England. The new letters to be used are necessary, but their shape in several instances does not harmonize with the general character of the Roman letters. Mr Hale's innovations are open to the same objection, but he does not recommend them for adoption, and when a philologist has recourse to new letters for his own purposes it is perhaps best that those which he engrafts on the Roman alphabet should be borrowed from the Greek, or any other well-known alphabet which contains the symbols wanted.

phisms, under which letters and words originally identical now shew themselves in the different members of the group. The first and lowest step, that of ascertaining the actual sounds of each language, is thus directly connected with the highest branch of the ethnology of the Archipelago. When examining the vocal character of the separate languages, and ascertaining the laws of transmutation, we shall find necessary a much more delicate balancing of particular elementary sounds, and a more complete reference of each to its physiological origin, than will suffice for our present purpose.

In the languages of the Archipelago many vowel sounds occur which are different from those in the more current European languages. The latter contain every pure vowel sound and several compound ones, but the same letter represents different sounds, and this is the case in the English language to an extraordinary and absurd extent. The three pure elementary vowels *i*, *a* and *u* will receive the Italian sounds, being those most generally prevalent in Europe, and which English writers on eastern languages adopt. All other vowels may be considered compounds of these, and the only mode of representing them is by availing ourselves of the Roman composite as well as simple vowels, and expressing all other double and multiple vocalic combinations by them. Where one of these Roman sounds preponderates, we must use the vowel which stands for it, and when we come to consider the vocalic transmutations, we must have recourse to description for more accurate explanations. To give a single example. The inherent vowel sound in the Javanese consonants is neither *a* nor *o*. It is a combination of both, the latter being itself a vowel of two elements. As the *o* preponderates in this sound, we use it as the nearest approximation to its correct expression. Mr Crawford uses *a*, de Groot *a* with a small *o* over it, a useful make shift which we may occasionally adopt, but which is too clumsy to become part of a general system of orthography. It may be difficult for those who have never heard the sound, to conceive how the two vowels can melt into a third which is a perfect vowel and not a diphthong. Such is the case however, and there are numerous other instances of a similar kind in the different Archipelagic languages. Some of these will be noticed in the elucidations annexed to our table of vowel sounds, and to these remarks we refer for all that we think it necessary at present to indicate respecting their organic characteristics, the only sound basis for the study of the vowels. The ear and the imitative power of the voice differ so much in different individuals that a reliance on

them exclusively can only breed misconceptions and confusion.

In the choice of marks for the different organic changes which the same vowel sounds may undergo, we think simplicity and uniformity will be best attained by giving to each mark one unvarying force, according to its position, and in assigning this position we shall follow the natural organic order in which the letters themselves are arranged. The dot or period at the bottom of a letter will indicate the modification of sound produced by the influence of the lowest part of the vocal organs, the guttural, and the dot at the top of a letter that produced by the influence of the highest, or nasal. These are the most necessary modifying signs, and some of the dialects will require them to be doubled.

We have given the equivalents of our characters in several of the principal languages of the Archipelago, adding examples of words in which the sounds occur. As this has been done with much labour, the correct pronunciation being obtained in every case from natives of the different countries, this portion of our essay will have a value to European scholars, to which the rest of it makes no pretension.*

Consonants.

The greater number of simple radical consonants being of a decided character, the same letters represent them in different orthographic systems. When the sounds of two consonants run into each other, we think they should be united by a circumflex or dash. Where not so united, the full sound should be given to both.

For the *guttural* modification of consonants we shall use the guttural mark for the vowels. The nasal does not we think require a distinct character, as in the Devanagiri and Bugis alphabets. The same sound occurs in most languages, and being generally nothing save the reaction of the following consonant on the nasal when the latter runs into it, no mark even seems necessary. In the middle of a word a circumflex or dash may be used to connect the *n* with the other consonant as in the case of the *ñg*. The palatal modification may be denoted by a dot, after the current system of writing the Sanskrit cerebrals. But we shall, with Sir W. Jones

* We have also given the corresponding characters used in the systems of Sir W. Jones and the English writers who follow him, of Profess Bopp and other Continental philologists, of Mr Marsden and Mr Crawford. To these we have added a slightly modified version of Sir W. Jones' system which Colonel Low sent to us with a request that it might be used in his papers.

TABLE OF VOWEL SOUNDS.

	English	Jones.	Bopp.	Marsd.	Crawf.	Low	Malay	Batta	Besisi	Javanese	Bugis	Butun	En de.
ī	hit	i	i	i, ĭ		i	likāt	īngotun	jīle	sikso	tīnga	īnsura	mīne
i	serene	ì, í	î	i, ĭ	i	í	lirim	libong	ioh	kiyahi	iko	tigupigu	ika
ī	see	ì, í	î	ī			kirīmān	harūa	mītise	puranīro	īo	bavīne	ritī
ē	mat			e		a	dēripada	hērnok	manē	jīmbēr	asēra		tikkē
e	they	è	ê	e, e	e	é	cheper	sere	beh	kero	aje	bebe	ame
ē	laird Sc.			e		e	ramelkan	lehon	gres	kentol	elekele	saveta	
é	met			e, ě		è, e	cheri			epeh	meloh		
ā	but	a	a	a	á		asām	lāklāk	doyāl	kāti	bābu	āndala	vāro
a	father	à, á	â	a, ā	a	á	sāgala	nabarali	palas	apoh	kapa	jara	kage
ā	awe	ā	ā	ā		ā	bangsāwān	nashārā	gāan	tarāte	posāwe	rā	kāmba
ō	not	ă		o, ǒ		o, ă	rokō	gō	jīrō	hopō	pītō		
o	no	ò, ó	ô	ō	o	ò, ó	lora	tonga	solo	huro	ompo	tomku	toko
ō	oh			ō		ō	ōmba	wōmbus	kīnōn	hōmba	bōsi	kōni	ōne
ū	woeful	o	u	u, ŭ			jaū	batumū	jūs	sukū	sukū		ulūt
u	pull	ú	û	u, ū	u		batu	ulu	munchot	huwes	timu	buku	bu nu
ū	moon	û, ú	û	ū			pēngūsongi	Sūma	hampūte		kuma kūma		

Organic modifications of vowel sounds.

Guttural sounds are denoted by a dot below the letter, *Nasal sounds* by a dot above it; both being doubled when necessary

Tones.

The tones are thus denoted:

ā, the *rising*
 â, the *falling*
 â, the *grave*

ã the *inflected*
 â the *interrogative*
 a' the *abrupt or re-entering*

*** Every letter is to be distinctly sounded, unless where two are connected, thus ngii and puu consist each of two syllables, ngi and i, pu and u.

TABLE OF CONSONANTS.

	<i>English.</i>	<i>Jones.</i>	<i>Bopp.</i>	<i>Marsd.</i>	<i>Crawf.</i>	<i>Low</i>	<i>Malay</i>	<i>Batta.</i>	<i>Besisi.</i>	<i>Javanese</i>	<i>Bugis</i>	<i>Butun</i>	<i>Ende</i>
<i>Guttural.</i>													
k	king	c	k	k	k	k	kuku	kapor	kādue	kuku	kanuku	kan	kuva
g	gone	g	g	g	g	g	gaja	mago	gihin	gaja	gaja	maoge	vigu
ŋ	song	n	n	ng	n	g	laŋg	ngingi	ngar	lauḡit	largi	ngiorsi	ngarga
h	hard	h	h	h	h	h	harus	butuha	hamar	harāp	harus	hua	hui
<i>Palatal</i>													
ch	church	ch	—	ch	c	ch	chinde	bichār	lānchāp	tchinde	chinde	—	—
j	jury	j	j	j	j	j	raja	jola	jaro	rodjo	raja	ajara	rajo
r	rapid	r	r	r	r	r	rame	mārbotār	ruwung	rame	rame	randa	vāro
y	you	y	y	y	y	y	yusuf	panyaput	yut	kayu	pariya	komiyo	nyawa
<i>Dental</i>													
t	tone	t	t	t	t	t	taman	tākohok	takot	taman	tana	torgko	tuka
d	do	d	d	d	d	d	datu	pidong	do	datu	rede	dela	diake
n	narrow	n	n	n	n	n	tana	nahi	nom	wono	tana	antona	bunu
l	leaf	l	l	l	l	l	lipān	palak	līnon	lintang	largi	lumpa	laa
s	seek	s	s	s	s	s	sarong	sasāp	sīro	sarong	pasampo	si	sīru
z	zeal	z	z	z	z	z	zina	—	—	—	—	—	—
<i>Labial</i>													
p	put	p	p	p	p	p	papa	pat	pus	popo	pato	pu	puu
b	but	b	b	b	b	b	bākar	obuk	bari	batin	batu	bembe	batu
f	far	f	f	f	f	f	fārdana	—	—	fati	—	—	foko
v	vale	v	v	—	—	v	—	—	—	—	—	saveta	vavi
w	woe	w	—	w	w	w	niawa	towar	gawok	niowo	niawa	bawu	biwi
m	many	m	—	m	m	m	mati	mudar	mui	tameng	chomo	omia	meo

(who however uses the acute accent) and Mr Crawford, place it above instead of below, the dot below being appropriated to the lower organic or guttural modification. It will not be often necessary to use this mark, and we need not distinguish between the lower palatal and the higher or cerebral, although any decided instances of the latter may, in accordance with our general system, be denoted by doubling the dot.*

Elucidations of the table of Vowel sounds.

The same reasons that render it necessary to imitate the approximation to a natural classification of the consonants which distinguishes the Sanskrit, and renders the Bugis alphabet more scientific than the Roman, have induced us to break through the customary order of the vowels, and arrange them also in a series beginning at the most internal and ending at the most external part of the vocal organs. Some writers object to the organic classification of sounds, but on insufficient grounds, for philologists in designating sounds as labial, dental &c do not mean to imply the absurdity that the lips alone, or the teeth alone, produce the sounds which take their name. It is only intended that these organs give the peculiar character to the sounds called after them which most strikes the ear, and distinguishes them from other sounds. The best proof of the classification being an approximation to a natural one, is the fact that, in general, the sounds of each class are more readily and frequently transmutated into each other, than into those of the other classes. The true objection to the system is one which it shares in common with most systems in other sciences. It is apt to mislead by diverting the attention from the less prominent characters, and producing a habit of not viewing each sound in the entirety of its organic nature and relations.

Sir W. Jones has prefaced the explanation of his system by an account of the mode in which the vowel sounds are produced. But the whole of his remarks are erroneous from his having considered that the size of the vocal orifice alone determines the tone and weight of the vowels, whereas the tongue and the organs at its root have an essential influence in modulating the simple breathing into the different vowels.

The vocal organism consists of a chamber, having, in the palate, a roof rigid, domeshaped and elevated anteriorly, soft,

* Mr Crawford's scheme for consonants is simple, but its adoption by us would violate the rules which we have endeavoured to carry out. The single dot over a letter, which is his principal diacritical mark, has not always the same or even an analogous power. Over d and t it is the palatal mark; over n it expresses ng; over g, ghain; over n, a strong aspirate; over k, a deep hard guttural, &c.

flexible and low behind; in the tongue, a floor, soft, fixed at the back but otherwise free, and of the most complex and perfect mobility; in the teeth and lips, a double portal, the inner hard, fixed, and only requiring a hinge movement vertically, the outer soft, flexible, and requiring combined vertical and horizontal movements. For the production of vowels, the vocal chamber, by the mollusk-like motions of the tongue, is contracted in height and breadth, while the lips extend it in length anteriorly and vary the shape and size of the door. By the downward motion of the lower jaw the chamber can be thrown open, and an extraordinary capacity given to it by the consequent depression of the base of the floor. In some vocalic sounds this is availed of to a small extent.

The sounds of all the vowels, in proportion as they are shortened, approach each other, because the vocal breathing is checked near its origin in the larynx, and before it has been fully modulated by passing through the variable oral cavity. When very abrupt, they are hardly distinguishable, and hence their tendency to pass into each other. As every long vowel graduates into its short sound by a more or less direct passage, a communication is opened between the long vowels also, and it is only the peculiar musical or vocalic genius of each language, strongly impressing itself on the people who speak it, that can ensure in its words the perpetuation, through long periods of time, of the same vowels in their entire purity. Those languages, like the Bugis, which delight in the resonance of the full toned vowels, ought to be more permanent in this respect than those, like the more catholic Malay, which, with all its vocalic tendency, exhibits no decided repugnance to the weaker vowels.

The natural order of the vowels, proceeding outwards, appears to be this—1st *i* and its modifications; 2nd the sounds formed by different combination of *i* and *a* including *e* (= *a* & *i* fused) and its modifications; 3rd *a* and its modifications; 4th the combinations of *a* and *u* including *o* and its modifications; 5th *u* and its modifications, also those combinations in which it preponderates.

ĩ, i, î.

Vocal chamber narrowest and shortest; the lips are drawn aside, so that the anterior part of the chamber from the teeth to the lips is removed, and the length reduced to a minimum; the teeth, thus forming the orifice, approach each other, and the tongue approaches the palate, so that a very narrow passage is left for the emission of the breath.

i

Small weight, often assimilates to the *ä* and *ë*, and therefore easily transmutable.

In *Malay* geenerally impled or ioherent in consonants ; may be expressed by *aliph* with the vowel marks *baris di bawa* (*keurah*) or *baris di atas* (*damma*.)

Javanese—The alphabet does not represent this sound, although it is sometimes heard ; when this is the case it seems to be only a less strong *e*, and in writing takes the mark of the *e* [*v. m. taling*.)

Bugis—no letter or vowel mark ; very rare and properly the *i* contracted.
Batta—*ib* but more frequent. *Butun*, *Ende*, infrequent.

i, i

A vowel of great importance from its piercing liquid tone, which enables it to give a decided character to those dialects which it pervades.

Mal.—the mark *baris di bawa h*. The long *i* is the simple *ia*, or the *ia* preceded by a consonant with the *baris di bawah* ; *Jav. v. m. ulu*, nearly the same in form and name as the *Bat.* ; *Bug.* letter *ia*, *v. m. yesena*, fuller tone than the *Mal.* ; *Bat.* letter *i*, *v. m. ulua* ; *But. Ende* softer than in the other languages.

ě, e, e, è*

In *e* the vocal tube is the same length anteriorly as in *i*, but it is wider throughout. In the natural and usual mode of producing this vowel, there is a slight motion in the tongue. It begins in fact with the *ä* shape of the canal and ends with the *ĩ* shape, although the change is too rapid to be easily distinguished by the ear ; *e* therefore is not a pure vowel.

In *è* the canal is the same length anteriorly but wider throughout: This is the sharp or open sound of *e*, naturally produced by drawing the lips back and depressing the tongue as much as possible, when the *è* can still be naturally and easily pronounced, while the *e* can only be produced by raising the dorsum of the tongue so as to narrow the space between it and the palate.

ě

è is sometimes considered the short sound of *e*, but it has too decided a character of its own to take this place. The short sound of *e* differs from this and approaches, less closely certainly, to *a* and *i*, but although these sounds graduate into each other and are indifferently used in some words, they are in general sufficiently distinct. The sound of *a* in *man*, *mst*, &c—if the sound of *è*, which is often improperly given to it, be avoided,—comes nearest to the *e*.

Mal.—This is the proper sound of the common affixes *ber*, *ter*, *per*. It cannot be distinctively expressed, either by any letter or mark.

e, e

This vowel possesses little weight, and does not occur frequently in the vocalic languages of the Archipelago. It is used more to intensify the strong vowels by contrast than for its own sake.

* We here use the grave accent in place of the comma over *e*.

Mal. is with the *kesrah*, or, when following a consonant, with *fatha*, produces the *e*. *Jav.* v. m. *taling* same nearly as the *Bat.* *Bat.* v. m. *talinga*.

è

Mal. No letter or v. m.; exceedingly rare. *Bug.* v. m. *imuri*.

ă, a, ā.

The vocal chamber the same length as before, deeper beneath the hard palate, and less so beneath the soft palate occasioned by the retraction of the tongue. This is one of the most protean of all the vowels. There is a frequent oscillation from *ă* to *a*, and an assumption by the former of the character of *î*, *ê* and *ö*.

The *a* is the most important vowel in the vocalic languages. It is, in fact, in some so powerful and pervading that the other sounds may almost be considered as accessory. This predominance is acquired from the ease with which it is enunciated, the most natural and involuntary breathing producing an *a*.

ă

Mal. Generally implied or inherent in the consonants; may be expressed by the orthographic mark *fatha* or *baris di atas*. It occurs more frequently than any other short vowel sound; sometimes it takes a little of the *a* sound, the two naturally tending to slide imperceptibly into each other, being the opposite extremes of the spiritus lenis. In general however the short sound, as in our word *sun*, preponderates. The word *mamandang* contains both sounds, the *man* having precisely the same vowel sound as *but*; the first *a* takes a little of the *a*. It is also sometimes accompanied by a slight nasal, in which case it differs distinctly from the *u* in *but*; the nasal however is too faint to admit of the nasal point. The *a* is in some words interchangeable with *o*, as *berkampul*, *berkom-pul*. *Jav.* v. m. *papat*. *Bug.* the *afana* some times gives this sound, but its more common v. m. is *yawana*.

a, ā.

Mal. *a* is generally denoted by *aliph* but often implied.

The *ā* requires *aliph* and may be definitely expressed by the *meddah* over the *aliph*, or by giving the preceding consonant the *fatha*. *Jav.* letter. *Bug.*—inherent in the consonants, also a separate letter. *Bat.*—1b.

ö, o, ô.

The vocal canal is now lengthened by the addition of the lips; it retains the same width, but is rendered more cavernous and resonant by the contraction of the oral opening.

ö.

Jav. This, or rather a transfusion of *o* and *a*, is the Javanese inherent vowel.

o, ô.

Jav. The v. m. *taling tarung* gives the long *o*, but it is not the simple *ô*. The lips are more projecting and the mouth inflated by the breath than in pronouncing the inherent *ö*. *Bug.* v. m. *yolona*. *Bat.* *siala ulu*.

ũ, u, u.

The canal is again narrowed and the vocal orifice is further contracted and a little advanced, so that it reaches its maximum of length. The prolongation of the canal, by rendering this vowel the gravest of all, and its contraction, by rendering it liquid like the i, combine in it the qualities of the opposite extremities of the vocalic scale. Hence this vowel is perhaps the most powerful of the whole. It is however too intense, and at the same time costs too much labial effort, to become the principal vowel of languages which might have derived their origin from the Castle of Indolence.

Mal. The letter *wau*, the v. m. *dammah*. The long u is the simple *wau* preceded by a consonant with the *dammah*. *Jav.* v. m. *suku*. *Bug.* v. m. *yawana*. *Bat.* v. m. *barita*.

Nasal Vowels.

The nasal mark may be applied when required to any of the vowels. In the Malay of Malacca the a sometimes takes a faint nasal, but this is too slight to give it a distinctly nasal character. The Malay of southern Johore (including Singapore) is prone to nasal tones; a final, as in *saya*, *guna*, is nasal. Some of the more isolated tribes, aquatic and inland, have strong nasal tones. These tones are not heard in the Javanese. The Bugis alphabet has a distinct nasal mark, *ālāna*, but the nasal is not strong. It approaches to that of Singapore.

Elucidations of the Table of Consonants.

The consonants are the sounds produced by obstructing and interrupting the passage of the breath. They may therefore be considered as an impeding, muffling and shutting in of the vowels, and their variety depends, like that of the latter, partly on the widening and opening of the vocal cavity by the vertical movement of the lower jaw, but chiefly on the flexible and mobile power of the tongue, which, by its changing position, extension and muscular force, modifies the form and size of the cavity through which the breath is forced, and acts as a perfect or imperfect valve. This last office is also performed by the lips.

To understand the character of each consonant, the modifications which it is capable of undergoing, its affinities and transmutations, it is not sufficient to consider it as a member of one of the organic classes under which the Devanagiri alphabet is arranged. All systems of classification which do not embrace the characters of an object in their totality are

apt to mislead. A true system would be one founded not on particular characters, but on the relative degrees in which different characters exist in each object. No other system can express the actual affinities and differences of objects, and present each at once in its individual completeness and in its entire relationship to others. At present, in vocal sounds individuals are grouped according to some prominent common character. We should begin by ascertaining each characteristic of the vocal sounds, and how far it is found in every consonant; and then endeavour to express the relative degrees in which each partakes of the different vocal characters. Our classification should be based on this.

On comparing the different consonants, we find that in some there is heard a more or less decided sound of air passing through an aperture or cavity, or being continuously obstructed; while in others there is the sound of the sudden release of obstructed air. The one kind of sounds are prolonged, the other momentary. The first kind, we find, are again distinguishable into those in which the passage is wide, but of small depth in proportion to the quantity of the air or force of the current; and those in which the opening is less wide, but the volume of air smaller in proportion to it. The first, in which the air makes most noise, may be termed the strong aspirate or simply the aspirate, and the second the weak aspirate. The broad and shallow opening which produces the aspirate sound may be formed at the back of the vocal chamber, by the approximation of the root of the tongue to the soft palate, which produces the sound called *h*; in the palatal dome, by the approximation of the margin of the tongue to the palate, which produces *j*, *ch*, when the opening is less broad, and when broader a palatal *s*, *z*; in the front of the chamber, by the approximation of the teeth, which produces the common dental or sibilant *s*, *z*; by the application of the teeth of one jaw to the lip of the other, or less easily and naturally by the partial meeting of the lips, which produces *f*, *v*; by the firm application of the lips to each other save at one opening only producing *w*, which however is rather intermediate between the aspirates and weak aspirates. It will be seen that in this series of aspirates their sound, like the vowel series, is modified by the length of the vocal tube, varying from the minimum, where its mouth is near the root of the tongue (*h*), to the maximum, when its mouth is at the lips (*w*).

The weak aspirates, we find, are of two descriptions, the oral, or those in which the air passes out through the mouth,

(*r*, *y*, *l*), and the nasal, or those in which it passes out through the nose, *n*, *m*, *ng*. The *r* may be considered as a letter continually endeavouring to pass into the non-aspirates, and forced back into the weak aspirates by the vibration of the tongue against the anterior part of the palate, the posterior margin of the tongue being applied to the palate. A guttural *r* exists in some languages. The *l* is produced by the anterior part of the tongue being pressed close against the palate, and the posterior margins kept free for the passage of the breath. It has a resonant character, from the air being forced into, and rebounding from, the hollow formed by the anterior part of the tongue and the palate. In the *y* the posterior part of the tongue is pressed at the sides against the palate, and the vocal passage narrowed. It is in fact a consonantal *i* produced by a stronger breathing and closer pressure of the tongue against the palate. Of the nasals the *n* only differs from *l* in the breath passing in smaller volume through the more difficult passage of the nose, and the *m* only differs from the *n* in the hollow being extended anteriorly to the lips. In the *ng* the posterior margins of the tongue are pressed against the posterior marginal basis of the palate, and the opening of the throat narrowed. The weak aspirates, from the volume of air being so proportioned to the passage as to be emitted easily or with little effort, approximate more to a vocalic character than the other consonants. Hence they are included in the class called, with doubtful propriety, semi-vowels.

The non aspirate sounds are properly only three, but each has a rapid or forcible (designated *tenuis*, sharp, *surd*, hard) and a slower or weaker form (designated *medialis*, flat, *sonant*, soft.) In the former the breathing is the usual strong expiration. In the latter, the breath is thrown or drawn up from the throat, and the sound is consequently more resonant. In this class also the length of the vocal tube varies. The minimum length, in which the valve is formed by the posterior dorsum of the tongue being forcibly applied to the soft palate, produces *k*, *g*; the middle, in which the valve is formed by the tongue being pressed closely against the hard palate, produces *t*, *d*; and the maximum, in which the valve is formed by the lips being pressed closely against each other, produces *p*, *b*. All these sounds are caused by the sudden release of the pent up air, on the opening of the guttural, linguo-palatal, and labial valves respectively.

It appears from the above that besides the characters of aspirate, (strong and weak, oral and nasal), and nonaspirate,

there are others depending on the length of the vocal cavity, the organs employed in modifying its shape, and the varying mode in which they are used. The length of the cavity however depends on the organs used in producing the sound, so that when we say guttural, linguo-palatal, linguo-dental, dental, and labial we express at once the organs in action, and the length of the vocal chamber.

The distinction of surd and sonant is not confined to the nonaspirates, although it is most uniformly and strongly marked in them. The aspirates exhibit an analogous dualism in *ch*, *j*; *s*, *z*: *f*, *v*; and the weak aspirates to a certain less appreciable degree in *l*, *n*.

It is difficult to show in one view all the above characters of each letter in itself, and all its affinities and relations to the others. We have endeavoured to do so graphically in the subjoined table, in which the horizontal columns represent the character of the breathing, whither non-aspirate, aspirate, or weakly aspirate. The vertical columns shew the organs employed in producing the letters, according to their natural order, and necessarily indicate, at the same time, those qualities of sound depending on the length of the vocal cavity. To indicate the surd and sonant, the oral and nasal, characters, the letters, both in the horizontal and vertical columns, have been placed in double rows.*

		Guttural		Linguo Palatal		Ling. palatal dental		Labial	
		Surd	Sonant	Surd	Sonant	Surd	Sonant	Surd	Sonant
Non Aspirate	{ Surd	k				t		p	
	{ Sonant		g				d		b
Aspirate	{ Surd			ch		s		f	
	{ Sonant		h		j		z		v, w
Weak Aspirate	{ Oral				r, y		l		w
	{ Nasal		ng				n		m

There are other properties of the consonants which are necessary to be considered before we have fully ascertained their respective powers, such as degrees of resonance, volume of sound, timbre, harshness or liquidity, strength and

* The 19 consonants of our alphabet may be reduced to 13, if we consider the surd and sonant as one letter. This is practically the case in the Polynesian languages.

weakness &c. These have been incidentally noticed in the above broad discriminations, but each will require to be fully and separately investigated when we attempt to elucidate the phonetic characteristics of the different languages which we shall compare, and the metamorphoses of their words. Here we have, in great measure, limited our view to the organic or formative characteristics,† but we shall find that the vocal qualities of the letters, irrespective of the instrument which produces them, are equally necessary to explain their permutations, some depending on the substitution of one action of the organs for a proximate one, and others on the harmonies of sound, which compel the organs to produce a letter belonging to one organic class in lieu of that of another.

When we apply the vocal elements of language which we have been considering, to the languages of the Archipelago, we discover that the various orders of physiological affinity which the table exhibits are fully born out philologically. The exceptions, (whether of transmutations which the table does not explain, or of affinities existing according to it which are not represented by actual transmutations,) are few, and often apparent only.

We give a few examples at random of those permutations which take place most openly and commonly. When we compare the vocal characters of the different languages we shall find that the greater number of these substitutions of one sound for another are distinctive of certain dialects †

A. Consonants belonging to the same organic class.

Gutturals:—shop, *kadei* Mal. *gadei* Bug.; fry, *goring* Mal. *kori* Let.; all, *sägala* Mal. *sekara* Biau; *k* and *g* are

* We hope that actual dissections will here long ascertain with precision the cause of the different tone and pitch of the voice in the different races of the Archipelago. The latter, according to physiologists, depends immediately on the length of the vocal cords, which have never been measured, so far as we are aware, in any Archipelagic race, but this again is connected with the general physical conformation.

† The surd and sonant forms of the same letter are easily interchangeable in most. Thus *k* into *g*; *ch* into *j*; *p* into *b* [see preceding note.] In Malay there are several words in which the strong and weak forms are commutable. The interchange of *p* and *b* is the true explanation of some of the anomalies of that most puzzling of Malayan particles, *per*. It is sometimes substituted for *ber*. In the transitive form of Malayan verbs it is noticeable that while the soft *b* stands its ground before the prefixed particle, the greater weight of *p* requires its displacement; (*buat*, *membuat*; *putar*, *memutar*.) So with *d* and *t* (*dapat*, *mendapat*; *turut*, *menurut*) and with *k* and *g* (*kata*, *menkata*; *goso*?, *meuggoso*?). In the Polynesian languages the surds and sonants are interchangeable.

sometimes commutable in the same word in Mal.; bird, *burong* Mal. *burokn* Pont.; foot, *kaki* Mal. *gaki* Ach. *hahe* Menadu; thunder, *guntur* Mal. *huntor*, Lingui.

Linguo-Palatals.—j and ch and j and y are convertible in several Mal. words; clove, *chinke* Mal. *jenki* Kis.; one, *hecha* Bima *heje* Sund.; water, *ayer* Mal. *aje* Chig; vein, *urat* Mal. *uyat* Batan; salt, *garam* Mal. *gayam* Chig.; seven, *tujoh* Mal. *toru* Tat.

Dentals.—One, *satu* Mal. *sadi* Bug. *sada* Bat.; dead, *mati* Mal. *made* Bima; receive, *tarima* Mal. *narima* Pont. (final n becomes tn in this dialect *turun* Mal. *turutn* Pont. cocoanut, *butan* Saraw. *butatn* Pont.;) *padi* Mal. *pani* Banj.; pine-apple, *nanas* Mal. *danas* Sun.; nose, *idong* Mal. *ilong* Tag. *hiung* Sul. *ulukn* Pont.; heel, *tumit* Mal. *tumin* Kayan; itchy, *gatal* Mal. *gatan* Kay.; in the transitive form of Malay verbs the initial t is displaced by n.

Labials.—Stone, *batu* Mal. *watu* Let. [New Z.] *fatuk* Belo [Samoan &c.]; lip, *bibir* Mal. *wiwek* Bug. *vivi* Rab.; mouth, *baba* Ach. Malo, Sunt Sau, *bafa* Rot. *fafam* Wok. *wawam* Solor [*baha* Kup. *bah* Mil.]; moon, *bulu* n Mal. *wulan* Solor, *fulan* Wok. Kag. *pula* Belo; come, *muri* Mal. *badik* Sam; east, *timor* Mal. *tibur* Let.; read, *bacha* Mal. *mucha* Pont.; *sumbu* Mal. *supnu* Let.; warm, *panas* Mal. *malah* Kis.

B. Consonants belonging to the same aspirate class.

It is remarkable that the interchanges between the different organic classes take place most commonly through the surds. This may be considered a proof of their predominance in the Malayan languages. In the Polynesian this is so great that the missionaries have in general rejected the sonants altogether. (Hale p. 233.)

1. *Non-aspirates*. (a) *surds*.—Mat, *tikar* Mal. *tipa* Sas; eye, *mata* Mal. *makan* Kis.; cocoanut, *kulapa* Mal. *kaluku* Bug.; a fly, *lalat* Mal. *lalok* Bug.; worm, *ulat*, Mal. *ulak* Bug.; medicine, *ubat* Mal. *ubak* Bug.; west, *barat* Mal. *warak* Kis.; lake, *tase* Mal. *kahe*, Kis.; in some Malay words t and p are commutable; white, *pute* Mal. *tute* Sang.; lightning, *kilat* Mal. *kilap*. Ling. (b) *sonants*—hog, *babi* Mal. *bagi* Bat.

2. *Aspirates*. (a) *surds*: chili, *chabei*, Mal. *sabi* Sas; cat *kuching* Mal. *sing* Kay. *si* Sang; in Butun ch becomes s. (b) *Surds into sonants*—rain, *ujan* Mal. *usa* Rot; spirit, *smangat* Mal. *hemanga* Savo; honour, *hormat* Mal. *sormat* Let; milk, *susu* Mal. *huhu* Kis; one, *satu* Mal. by inversion *tasi* Samoan, *tahi* New Z &c.

3 *Weak aspirates* : bambu, *bulu* Mal. *buru* Born ; moon, *bulan* Mal. *buratn* Pont *bulan* Mangk. *wurah* Bima ; two, *dua* Bima [Hawaii &c.] *ru* Bat ; musquito, *niamo* Mal. *ramo* Rotum ; paddy, *pani* Banj *pari* Jav. *Biaj* &c. ; water *ayer* Mal *aeng* Mad. Sim ; five, *lima* Mal. *rima*, Ende [New Z] *nima* Timor ; diamond, *intan* Mal. *intang* Bug ; parrot, *nuri* Mal. *muri* Pont ; ear, *telinga* Mal. *tayingu* Tag ; night, *malam* Mal. *malang* Banj.

C. *Interchanges of surds differing both in their organic and aspirate class.*

Foot, *kaki* Mal. *kasa* Kay. *siki* Sulu ; cat *kuching* Mal. *kuling* Sulu.

D. *Sonants differing both in their organic and aspirate class :*

Well, *tagala* Mal. *tilaya* Sas ; teeth, *nipun* Meri, Mil. Kay. Bat. *jipun* Sau. *jupeutn* Pont. ; rain, *ujan* Mal. *udan* Jav. *udang* Bat ; cold, *siju* Mal. *sidek* Sim Mad ; road, *jalan* Mal *dulan* Bisayan ; tongue, *lida* Mal. *dilu* Sibn. *jila* Meri. Kay ; earth *butah* Mangk. *huta* G. T. ; goat, *bebe* Bug. *beri* Rot. ; land, *binua* Mal. *hanua* Rot ; moon, *bulan* Mal. *hulan* Rot ; yam, *ubi* Mal. *uhi* Rot ; day, *hari* Mal *nari* Bat. ; rice, *bras* Mal. *narese* Rot ; teeth, *gigi* Mal. *nini* Wok. ; three, *tiga* Mal. *telu* Bug. &c. ; egg *tigan* Jav. *tolon* Tim. *tilor* Mal. ; blood, *dara* Mal. *daha* Kay. *duhu* G. T. *raha* Ende ; below, *bawa* Mal. *jawa* Sang.

E. *Surds into sonants differing both in their organic and aspirate classes.*

There are more instances of this exceptional class in the Malayo-polynesian languages than in the Indo-european. But these exceptions are chiefly interchanges with such of the weak aspirates as, from their liquid nature, are eminently congenial to the vocalic taste of the islanders. The *r*, for instance, which in the Indo-european group appears only to make one excursion out of the class of weak aspirates, in the Malayan* languages invades both the bordering classes of

* If the word *Malay* be confined to the Malays and their language, and the word *Malayan* be exclusively used as a generic term for all the races and languages of what the French call Malaisie, we may dispense with the indefinite word Archipelagic. To apply the word Malay, as eminent European writers often do, to Javanese, Bugis, Battas, and all the other races of the Archipelago, is the same error which a Malay author would commit, who confounded Portuguese, Spanish, and Italians, under the name of French.

gutturals and dentals even in those departments which, from being at once aspirate and surd, we might suppose to be most repellant of it. The Malayan *r* evinces its guttural tendency by passing into *g*, *k*, *h*, ex. gr. deer, *rusa* Mal. *kasak* Samang, *husa* Daya; tail, *ekor* Mal. *ekok* Bug.; blood, *dara* Mal. *diga* Kag; sail, *layar* Mal. *layak* Kag, *layag* Bis, Tag; day, *hari* Mal. *arao* Tag, *aquo* Kag; rice, *bras* Mal. *bugas* Bis; water, *ayer* Mal. *ayk* Bat; three, *tri* Kawi, Sanskrit, *taru* Ende, *toru* Murang New Z. Rar. Man., *tiga* Mal [in other dialects *tilu*, *tolu*; by the common euphonic process of inversion *lotu*, *lo* &c; by the interchange of *l* and *n* *tina*, *teni* Tarawa] house, *ruma* Mal. *huma* Biaju, Sibnau; *hulu* Mal. *riulu* Bugis. On the other side the *r* makes itself serviceable to the dentals by doing the work of *d* and *t* Wall, for instance, which is *dinding* in Mal becomes *renr ng* in Bug; nose, *idong* Mal. *wrong* Kayan, *ido* Samba, *iru* Rabu, Let; one, *satu* Mal. *sudi* Bug. *siru* Mas. *ere* Mank. *reri* Pauu; leaf, *daun* Mal. *rau* Rot; two, *dua* Mal. *nu* Tim. *lua* Bim. *rua* Bat; sea *laut* Mal. *lor* Belo [the passage of *r* into *n* is probably most frequently through *l*] We have seen that it sometimes takes the place of other palatals, such as *j*, *y*; and its interchanges with all the weak aspirates are easily and often effected, particularly with the dental *l* and *n*. Its highly vocalic nature is further proved by the mode in which it is softened until it is lost in a vowel. The process by which this is probably most easily accomplished is well illustrated by the word *m-ri*, come; in Kedah the *r* is a soft guttural; the next step is a slight one into an aspirate; finally, in the Besis dialect of the Peninsula, and at Ende, Butun, &c, we find the aspirate lost, and all that remains of the *r* a pure vowel coalescing with *a*,—*mai*.

The aspirates and the nasals, from their capacity of dwindling into mere tones of the other letters, are so mobile that they may be termed the wings of the letters. When they attach themselves to a letter, its organic momentum is so much diminished that it is easily born over the boundaries of its own class and placed in another. The aspirate again, hardening into a decided guttural on the one side, and attenuating till it vanishes on the other, furnishes a medium by which most of the consonants may approach, coalesce with, or become absorbed in, vowels. Two, *dua* Mal. *rua* Batta, Ende, &c., *hua* Lamp., *ua* Haya; *Babi*, *wawi*, *vvi* (hog) becomes *hake* in Ende and *hakuo* in Saparua; *prut* Mal (belly) becomes *poot* in Menadu and *hoot* in Ternate; four, *ampat* Mal. *mpa* Bug. *hapa* Matasanka, *hat* Belo, *hake* Rotunia, *haa* Tim. *ha* Roti, Tahiti, Hawaii;

[*apa* Ambun, *paa* Bunerate, Solor, *va* Buru *pa* Lamp. Achin *uufa* P. Nias *fa* Tongan &c.]; man, *taki* Mal. *lil'hi* Bat; *saratus* Mal. [100] becomes *sahatu* in Buneratte, *saatu* in Buru and *hutu* in Matasanka; house *b-lei* Kag *bahu* Tag.; garden, *tanaman* Bis. *halumanan* Tag.; seven, *fitu* Samoan *hitu* Tahiti. Haw; ten, *sahulu* primitive Mal. form [i. e. one head, corresponding to two hands, *lima*, or fives] *sanghulu* Rot *nguhuru* New Z &c.; tooth, *gigi* Mal. *ngingi*, *inye* Bat. *gnii* Rabu *nini* Wokkam [Aru] *nioni* Saparua, *nih* Ende, *oninse* Butun, *isi* Bugis, Mandh Sambawa, Malo; sleep *tidor* Mal. *tindok* Sang. There can be no doubt that the change of many letters into h has arisen from their having at first merely taken an aspirate tone, thus, *k'ki*, foot, was probably *kh'khi* before it became softened by the abandonment of the k into *h'he* at Menado, *ahini* at Saparua, *ehin* at Kissa, *w'he* at Ende, *ebahi* and *ei* at Wakkam, *ai* at Ende, Belo and Butun, *ien* at Kupang &c., in which last forms the vocalic tendency succeeds in ejecting the aspirate.

To enable the reader to compare these interchanges with those of the Indo-European languages, and for convenience of reference hereafter, we have collected the latter, and referred them to the same classes with those of the Malayan.

- A *Indo.—European interchanges of letters belonging to the same organic class.*
Gutturals k, g, h. *Palatals* ch, j; j, y; j, r. *Dentals* t, d, s, z; t, d, l; l, n; n, s. *Labials* p, b, f, v; m, p, b, v; v, w, m.
 B. *Of letters belonging to the same aspirate class.* 1. *non-aspirates, surds* k, t, p. *sonants* g, d, b. The surds are not transmutable into the sonants unless they belong to the same organic class. 2. *Aspirates, surds* ch, f. *sonants* h, w; j, z; *surds into sonants*, h, ch, f; s, h, w. 3. *Weak aspirates* (including nasals) r, l, n, w; n, m.
 C. *Of surds differing both in their organic and aspirate class*, k, cb; k, s.
 D. *Of sonants differing both in their organic and aspirate class*, g, j, z, y; g, v, w.
 E. *Of surds into sonants differing both in their organic and aspirate classes.* k, v, w; g, s. The paucity of these exceptions is the strongest confirmation of the connection of the philological with the physiological classes. We do not find that k passes into j, z, r, y, l, n, or m; t into h, j, v, w, r, y, w, or m; p into d, b, j, r, y, l or n; g or d into ch or f; b into ch or s; that is of 31, possible interchanges between letters differing in all the three properties on which our classification is based, only 8 take place in the Indo-European languages.

We now add some remarks on the different Malayan consonants

k

The guttural—*aspirate kha* (the kh of Sir W. Jones) is only used by the Malays in writing. It may be represented by giving the h the guttural mark, as the guttural sound of the h is its distinctive characteristic. The aspirated *kh* requires no separate character, because all aspirates are to be pronounced separately.

The first *kaf* ق is only a strong hollow k and may be represented by giving k a palatal mark. It is more cerebral than guttural. At the end of words it is generally modified into a sharp hard abrupt sound of the preceding vowel, produced by a rapid protrusion, and sudden checking, of the breath, which gives a slightly consonantal character to the vowel. The tongue is about to be applied to the soft palate to form the k, thus breaking off the vowel tone, when it is suddenly arrested. As this is rather a modification of the vowel than of the consonant, the best sign will be an apostrophe after the vowel i. e. our *abrupt* or *reentering* vowel mark. The second or proper Mal. k, *kaf* ك is the common Eng. k.

The *Javanese* k is hard, and stronger than the Malay k. It somewhat advances to the cerebral. The *Bugis* k is the Malay k, and the sound seems to undergo no modification in that language. *Bata*, *Butan*, *Ende* same as Mal.

g

Mal. soft. The Arabic *ghain* is a harsh, strongly guttural r.

The *Javanese* g is pronounced with an effort, and a slight, hardly perceptible aspirate, as if an impediment were overcome in enunciating it, a momentary stammer in fact. *Bat. Bug. But. Ende* as Mal.

ng

As this is a compound sound, it is best represented by retaining the letters by the coalition and softening, of which it is formed but to prevent the *ir* being repeated where they are followed by a syllable beginning with a vowel, as *jangan*, they ought to be connected by a circumflex as in Marsden's works, or a compound letter as *ng* may be used.

Jav. more nasal and strong than the Malay. *Bat. Bug. But.* identical with the Malay.

h

The Arabian *ha*, which is not pronounced by the Malays, is simply a guttural h, and may be expressed when necessary by the guttural sign.

Mal. The soft *h* is the most common in Mal. *Jav.* much stronger than the Malay—approaching to the Arabic ح *Bat. Bug. But.* same as Mal.

ch

Here we follow Sir W. Jones, and without the reluctance which he felt in adopting this symbol, because the *c*, which in his system had the sound of k, only occurs in ours in expressing this sound, and therefore it cannot be mistaken for an aspirated k. The Malayan sound exactly corresponds with the English *ch* in church &c. but the *Javanese* give it a dental pronunciation which the Dutch denote by *tj*, and which we may express by *tch*, like the French. *Bug.* same as Malay. *Bat.* wanting. *But.* *s* substituted.

j

Mal. same as English, *Jav.* (dento-palatal) strong, forcible, as if preceded by a d. *Bat. Bug. But. Ende* as Mal.

r



Mal. soft, with little effort, like the Eng. r. *Jav.* broad, strong, with considerable effort.

Bug. between the Mal. and *Jav.*, but a longer vibration than either. It occurs frequently and is one of the distinguishing phonetic characteristics of this language. *Bat.* nearer the *Mal.* but harder and with more vibration. *But.* more vibratory than the *Mal.* but soft.


y

Nearly the same in *Mal. Bat. Jav. Bug. But.* and *Ende*. The same character expresses the compound vowel *ia*, which occurs frequently.

t

Mal. The common *Mal.* t  is the same as the English one. The other t,  of the Arabic alphabet, is analogous to the cerebral or lingual t of the Devanagiri. *Jav.* (1) dental t—stronger than the common Malay, t (2) palatal t, approximates to the cerebral t of the Malay - Arabic alphabet, may be denoted by adding the palatal sign. *Bat, Bug. But. Ende* same as the *Mal.* dental t.

d

Mal. (1) d dental common English d; (2) d palatal  has no existence out of the alphabet. *Jav.* (1) d dental, this is a little harder than the *Mal.* d, and pronounced as if overcoming a slight impediment, which is sometimes so marked as to give it the compound sound of td; (2) d palatal, add the palatal mark. *Bat. Bug. But. Ende* d dental.




n

Mal. same as English. *Jav.* *nao*—palatal, and less nasal than the Malay. *Bat. Bug. But. Ende* same as Malay.

l

Mal. same as English. *Jav.* stronger and more forcible than *Mal.* *Bat. Bug. But. Ende* same as Malay.


s

Mal. The common Malay s  *sim* is like the Eng. The  *sa* of the alphabet is a hissing *ih* which is never heard, The  *sud* of the alphabet is a hard hollow s which is never heard, save when a Malay attempts to imitate the Arab pronunciation. *Bat. Bug. But. Ende* as *Mal.*

sh

This does not occur in *Jav.*, *Bug.* or *Bat.*.

z

Mal. *zi*, this is the soft z.  *zal* hard dental z, seldom heard, and only in Arabian words. *Bat. Jav. Bug. But. Ende* wanting.

p

Mal. same as Eng. *Jav.* hard and strong. *Bat. Bug. But. Ende* as *Mal.*

b

Mal. same as Eng. *Jav.* stronger and more sonant. *Bat, Bug. But. Ende* same as *Mal.*

w

Mal. like Eng. *Jav.* broader and more forcible. *Bug. Bat. &c.* like *Mal.*

ny

The *nya* (Marsden's *nia*) of the *Mal.*, the *nyo* of the *Jav.* and *nya* of the *Bugis* and *Bata* alphabet, is a compound sound which is correctly represented by *ny*. Mr Marsden's method is vicious, because in it the *i* is separated from the *a* as in *niamo*, the correct indication of the pronunciation is *nya mo*. Mr Marsden is compelled to use the *y* in such words as; *anyir*.

f, v. m.

Same as Eng.

Example of the application of the orthography recommended in the preceding essay

Malay

Apa guna pasang palita
 Jekalau tidak diŕŕgan sumbu-nya
 Apa guna bermain mata
 Jekalau tidak diŕŕgan suŕŕguh-nya

Batta.

Bena hai nahetun palita
 Ko indadong daŕŕgan sumbo-nya
 Bena hai bermayim mata
 Ko indadong daŕŕgan toto-nya.

Javanese.

Punapo damlipun dile
 Minawe mbotan simi ujonŕ-nyo
 Punapo dolan maripat
 Minawe mbotan simi laras-nyo.

Bugis.

Aga mopudo dituno pajinang
 Kalo de elo sumbo-nya
 Aga mopudo machole mata
 Kalo de elo tongesa-nya.

Butun.

Te opeamu betunu pajamara
 Ane aiinda te sumbu-na
 Te opea beta magasia ka mata
 Ane aiinda te mototu-na.

Sir W. Jones' Method.

Malay.

Apá gúná pásáng palitá
 Jékáláu tidáh diŕŕgan súmbu-nyá
 Apá gúná barmáin mátá
 Jékáláu tidáh diŕŕgan súŕŕguh-nyá.

Butun.

Té opéamu bétúnu pájámará
 Ané áiindá té súmbú-ná
 Té opéá bétá mágásíá ká mátá
 Ané áiindá té mototú-ná.

MISCELLANEOUS NOTICES, &c.

Dr. Bleeker having brought to our notice a mistake in the translation of a sentence in his paper on the ichthyology of Sambawa (J Ind Arch. Vol II p 634) we subjoin the original and a literal translation. We were misled by the words "niet alleen," which seemed to indicate that the author had intended a more direct connection between the first and second clauses of the sentence than the latter, taken by itself, actually expressed.

"De pogingen tot die publicatie door my by het gouvernement van Neerlandsch Indie aangewend, hebben niet alleen niet den gewenschten uitslag gehad, maar opvolgende over plaatsingen van Batavia naar Samarang en Soerabaya hebben my zelfs buiten de mogelykheid gesteld, mijn met jaren moeite en groote kosten bijeengebragt kabinet, ten dienste der Ichthyologische wetenschap aan te wenden."

"The efforts for this publication by me with the government of Netherlands India made, have *not only* not had the desired result, but succeeding removals from Batavia to Samarang and Surabaya have even placed me beyond the possibility of applying my cabinet, collected with years labour and great cost, to the service of ichthyological science."

We have received a statement from Panghulu Kisang in reply to the portion of the Rev. M. Favre's narrative relating to him (*ante* p. 59), which want of space compels us to postpone till our next number.

The conclusion of Mr Freidrich's paper we have withheld until the arrival of some Javanese types which were promised us.

THE
JOURNAL
OF
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

THE LANGUAGE AND LITERATURE OF THE ISLAND OF BALI.*

BY R. FREDERICH.

Common Kawi-literature.

1, *Bārata Yudda*. With respect to contents the Bārata Yudda stands nearest to the Parvas. For a considerable time it has been regarded as the only version of the Indian Mahābhārata in our islands. But we have now found on Bali the original pieces of that epos. The Bārata Yudda is formed after 4 of the Parvas, viz. after the *Bisma*, *Drona*, *Karna*, and *Salya-Parva*; the author is *Hempu* (or *M'pu*) *S'Dah*, who lived in the time of *Sri Paduka Batârá Jayabaya*, king of Kediri, and wrote his works by the order of the latter; the design of the king was to obtain by the composition of the work a *kadigjayan*, a *subjugation of the world*. In this also an Indian idea is conspicuous; by the performance of great offerings, by sumptuous works of architecture, and by works of literature, the prince thus engaged becomes not only famous, but he also acquires extraordinary power by which he is enabled to subject the universe to his will. Such was also the aim of the great offering of the prince of Lombok (in September, 1846), who, not being recognized by all as the legitimate chief, sought by offerings and abundant alms, to prove his royal right and to strengthen himself for warlike enterprises. The time at which the manuscript was composed, which I made use of, is the year of Saka 1724 (corresponding to the year of Christ 1802.) To judge from the outward appearance I should have taken

* Continued from p. 137.

it to be much older, in 46 years the lontar-leaves have already become much injured and it seems to prove what is said also of Indian manuscripts, that they cannot survive 100 years. This probably is also one of the causes that in Java, in so short a time, almost the whole of the ancient literature was lost, and that when the desire for the old literature was revived, hardly any of the old manuscripts could be discovered. In Bali also we must not look for very old manuscripts; however those which are guarded and transcribed in the families of the priests, may almost be considered as original, since in these families the knowledge of language and religion is preserved with the minutest care. Some faults are of course also possible here.

The place where the manuscript was written is *Swetytya-nagara*, also called *nagara Sukawati*, situated in the kingdom of Gianjar. We have noticed above that *Badonj* has also a Sanscrit name (*Bandanapura*); this is the case with all distinguished places in Bali; one place has even two nearly accordant Sanscrit names. *Sukawati* is the city abounding in pleasure—*Swetytya-nagara* the city of well-being. We perceive here again how far the Indian element, and thereby the Indian language, has penetrated into Bali. However all those places have also Polynesian names for the populace—the Sanscrit ones are frequently known to the princes and priests only.

The name *Bārata Yudda* was formerly translated “penance—combat” and commonly written *Brátá Yudda*; *brata* (Ind-*vrata*) is *penance*, and the heroes of the combat acquiring perfection by penance, the explanation had appearance in its favour. But we find in the manuscripts of the priests of Bali constantly *Bārata Yudda*, with the capital *b* (following DeGroot) corresponding to the Sanscrit *bh*, and followed by the *t'dung* (or *tarung*), representing the long *á*; the name cannot therefore be brought into accordance with *brata* which originated in *vrata*. *Bārata* as we find it written, signifies however “a descendant of *Bharata*” (the old Indian ruler of the universe), and we have thus in our work “*the combat of the descendants of Bharata*.” Now the *Kurus* and the *Pandawas* are descendants of that ruler, and nothing can be more appropriate than such a title for the work. This explanation has already been offered by Raffles, but the reasons which render it irrefutable we first learned from the good Balinese manuscripts.

The conclusion agrees much with that of the *Rāmāyana* and is Sanscrit: *Ong Śri devyebyo namah ong t'mung Ganapataye*

nama, ong siddir astu, tat-astu hastu, ong dirgayur astu. *Ong* adoration to the happy gods; *Ong*, adoration to *Ganapati*; *Ong* may the accomplishment be, may that be; *Ong*, may there be long life! *Deveyebyo* must be *devebyo*. What gods however are meant is not clear; *Saraswati* and *Ganesa* cannot be intended, since the latter is invoked separately; *tat-astu* is here made more forcible by the addition of another *astu*; the word *t'mung* here likewise precedes *Ganapati*. *Dirgayus*, "long life" is a thing for which the Indians and Balinese, and especially the composers of literary works, always supplicate the Deity. It is not necessary to draw the attention of those who are acquainted with Sanscrit to the inflected Sanscrit forms, and to the proper observance of the difficult euphonic laws of that language, occurring here and at the conclusion of the *Ramayana*. In an enumeration of the Kawi works of a less sacred character, the *Barata Yudda* is placed at the head, because the contents are closely connected with the holy *Parvas*. It stands however in less esteem and is more recent than some other Kawi works ex. gr. the *Wiwaha*. The language is also not a very pure Kawi, but more intermixed with the common *bhásá*.

2, *Wiwaha*. This is known from the Javanese paraphrase of *Gericke*, published in the 20th volume of the "Verh. van het Bat. Gen." (Transactions of the Batavian Society.) The contents and arrangement of the narrative in Kawi-*Wiwaha* is the same as in the translated paraphrase. The language is a very pure and beautiful Kawi; it is likewise not composed in the common Javanese song-form, but in the *Metra* derived from India (to be afterwards described). The author is *M'pu Kanwa*, not *Kanno*, as we find in the Javanese *Wiwaha*, which word has been formed by the usual Javanese corruption of *wa* into *o*. *Kanwa* is the name of an Indian *Muni* or Saint. Our *Kanwa* however, we may be sure, was a Javanese, perhaps of an Indian descent. He too lived in *Kediri* under *Ayer Langgia* the ancestor of *Jayabaya*.

Hempu S'dah and *Hempu Kanwa* seem to have been adherents of the Siviatic sect. We find here few or no traces of Buddhism in the *Bárata Yudda* and *Wiwaha*.

3, *Smara dahama*, the burning of *Smara* (the god of love); a well known Indian myth. The god *Siva* is interrupted in his penance by *Smara* (or *Kama*) that that is to

* The Indian *Raghuvansa* has been published in Calcutta, and by Stenzler in London.

say he loses the fruits of his penance by falling in love. Enraged by this he burns the god of love in flames which issue from his body. The god of love is therefore also called *Ananuga* (the bodiless) because his body was burnt by *Siva*. This work too is of the time of *Ayer Langgia*, king of Kediri. The author is called *M'pu Darmaya*, son of Raja *Kusuma* the composer of the *Ramayan Kawi*.

4, *Sumāna Santaka* comprises part of the Indian *Raghuvansa*.* *Raghu* the ancestor of *Rama* begets the *Adia*; she is permitted to choose her consort after the Indian royal custom. (*Svayamwara*, also so called on Bali.) Her husband *Devindu* died and she then gave birth to *Dasarta*, the father of *Rama*. This work also is composed in Kediri or Daha under *Ayer Langgia*; the writer is *M'pu Monaguna*, (the name signifies "whose prominent attribute is silence, mauna.") The writers of the three latter works bear Sanscrit names, and belong to the Sivaitic sect; the names of the Buddhist writers are in the language of the country, and in this circumstance likewise the characteristic of that religion is conspicuous, which made its way chiefly by yielding to and adopting the manners of the numerous and widely different countries, into which it was propagated; whilst Brabmanism, rigidly adhering to the ancient traditions, and holding in contempt all that is foreign, is no where found beyond India except in Java and Bali, and perhaps in parts of Sumatra and Celebes.

All the three abovementioned works are in a peculiarly good style and highly esteemed, and this chiefly because they are of Sivaitic authorship.

5, *Bomakawya*; the song of *Boma* (or Bhāuma)* "the son of the earth"; he is begotten by *Wisynu* from *Pretiwi* (the earth) and has, as son of the earth, a demon form and disposition. He is a *Danawa* (that is like the Grecian Giants and Titans.) He waged war against *Indra* the god of (the lower) heaven and triumphed over him. (*Indra* is also overcome by *Kawana* the giant-king of Ceylon, and his power appears every where as secondary, against which the evil spirits are proof.) One of the higher gods (*Wisyna* or *Siva*) must subject his adversaries in order to restore peace and order on earth. Here the *sang* is *Kresna*, the well-known (eighth) incarnation of *Wisyna* who kills the *Boma* is killed by being lifted up from the earth, which constantly reinvigorates him. The author is *M'pu Bradañ*

* *Bumakalantaca* by Raffles; the name *Anraka Sura* has not yet come to my knowledge in Bali. (Raffles I. pag. 388.)

Boda, that is "a *Bauddha*, a *Buddhist*;" he wrote in the time of *Jayabaya* of *Kediri*. Under that king Buddhism seems to have found its way for the first time into *Kediri* (the largest empire which existed in Java before *Madjapahit*.)

6, *Arjuna Wijaya*, ("the triumph of *Arjuna*") is formed after the *Uttarakanda* in like manner as the *Bārata* *ṛudda* after the 4 abovementioned *Parvas*. It contains the combat of *Arjuna* with *Rawana* and his victory. *Rawana* is here bound but not yet killed, because his time has not yet arrived. He is to be destroyed by *Rama*. Whether we are warranted in supposing here an expedition of the Brahmin-Hindus against the South of India and Ceylon previous to that of *Rama* (which is considered to be a personification of the subjugation of those regions) further research must show. The composer is *M'pu Tantular Boda*, likewise a Buddhist in *Kediri* under *Jayaba*.

7, *Suta Soma*. The *ratu Detia* (*Danawa*, *Demon*.) *Purusada* had made captive all the kings of *Baratawarsa* and conquered the *ratu Darma*. He is overcome by *Suta Soma* and his relative *Prabu Maketu*. It contains many episodes, and also the history of *Rama*. The subject is said to be taken from the *Ketaka Parva* (vid. supra), although we should not have expected it from the nature of that work. The author is the same who composed the *Arjuna-Widyaja* viz. the Buddhist *M'pu Tantular Kediri*.

We have this composition from older works in the epoch of *Jayabaya* or at least of the successors of the king of *Ayer Langgia*; it appears that the older *Kawi* language then began to be difficult of comprehension, and that the favorite subjects of literature had been therefore translated into a more comprehensible language. The influence of the Buddhists in this innovation is not to be mistaken.

8, *Hariwangsa*. This likewise is an Indian poem, commonly joined to the *Māhābharata* (the Indian one is published by Langlois in Paris and obtainable in Calcutta); this piece too invites to a comparison between *India* and *Java*, the *Kawi* and the Sanscrit. The contents, according to the priests, are: the conduct of *Kresna* towards *Rukmini* (his wife), and the war against the two princes *Jarasanda*, father-in-law of *Cansa*, ruler of *Magada*, and *Chedi* of *Sisupala*. This work is written in *Madjapahit*,* and thus of later

* *Madjapahit* is the literal translation of the Sect *Wilvasikta* (corrupted *Wilasikta*, us, *Jawa*), the bitter *vilva* (aegle marmelos); this then at least is not a fictitious fruit and the name of *Madjapahit* not unmeaning, as it was formerly considered (vid. *Rafl* s.)

origin than the preceding; the author is *M'pu Penulu Boda* likewise a Buddhist. The king of Madjapahit at this period was *Brayang W'kasing Suka*, father of *Bra Wijaya* (*Browijoyo*), who, according to Javanese records, was the last (Hindu) prince of Madjapahit.

Those are the most important works of the Kawi literature, so far as I am yet acquainted with it. With these however we are far from leaving exhausted Balinese literature. We have besides them first the *law books* written in prose; further the *Tutur's* or "instructive writings," of which nothing can as yet be ascertained since they are for the most part secret writings. Further the Babads or historic-genealogical works partly written in Kidung, i. e. the newer (Javanese) measure, partly in prose. Moreover we have pure Polynesian myths; above all those of Panji, which are likewise written in Kidung. Then there also exist little essays on the transmigration of the soul, on enotic subjects &c, and finally there is the Balinese Kalendar, a work of the utmost importance.

*Babad or Historical Essays.**

1, *Kenhangrok*. He is a son of *Brahma* and progenitor of the rulers of *Kediri*, *Madjapahit* and *Bali*. It has not as yet been ascertained in what epoch he must be sought for. His residence was in the *Kampong N'dok*, whose situation is not known in Bali, but is supposed to be in *Bâratawara*. It is written in prose, and contains 40 or more lontar leaves; I am only in possession of the first part, which has no more than 17 leaves. His mother is called *Kenhendok*; the god *Brahma* met her, much in the same way as the Greek Zeus knew how to win his numerous loves, whilst she as a married woman was amusing herself in the field.

2, *Rangga Lawe*. *Siva Buddha* (N. B.) ruler of *Tumapêl* is made captive for misgovernment by the king of *Daha* or *Kediri*, and his empire *Tumapêl* is overthrown. The chief minister of Kediri is *Rangga Lawe*; he at a later time disagrees with his sovereign and is finally vanquished and put to death. The work contains a minute description of the court of Kediri and the position of the grandees of the empire and may serve as a pattern of the constitution of the old empire, in Java. It is especially maintained in Bali that the court of Madjapahit was altogether in the same style, and that all the rules of the court of Kediri were carried to Madjapahit. For this reason it

* The name *Babad* is also met with in Java (vid. Raffles literature I, 393) and it also comprises, following him, all the historic works and new chronicles. Raffles spells it *Babet*; In Bali I find the word written *Babad*.

would be desirable to have this work published (text and translation) accompanied by the necessary notes ; this however can only be usefully done in Bali. The manuscript in my possession contains 67 Lontar leaves, each furnished with four rows on the face and back and is written very neatly. It is written in *Garog r* (*Glogor*) in *Badong* on the day of *San-eschara Kaliwon Landep*, in the month *Kasa* the 13th day of the increasing moon, in *rah* 9, *tênggêk* 6, corresponding with the year of Christ 1847, Saturday the 26th June. It commences with a metrum of 52 syllables in each line, the stanza as usual of 4 lines.

3, *Usana Jawa* "The ancient institutions of Java," a work containing the subjugation of Bali by the Javanese of *Madjavahit* and the settling of the *Deva Agung* in *Gêlgel*, with the distribution of the lands amongst the grandees of the Court. One manuscript of it had 29 lontar leaves and was derived, as they told me from *Pasuruang*; it however probably came from Bali to this place and seems to be little or not at all known in Java. It is written in prose. In that work a predilection for *Arya Damar* and his family is plainly manifested, whilst it passes over the *Patih Gaja Madda*, the founder of *Mengui* and ancestor of the powerful family of *Karang-Asem*, almost in silence. For this we may find reason in the circumstance that it was originally composed by a follower of the dynasty of *Arya Damar*. According to the postscript it was written in *Galogor* by *Pamchutan* (in *Badong*.) on the day *Rediti Pahing* (Sunday) in the week *Dungulan*, in the month of *Kanam* (the 6th,) on the 13th day of the dark half, in the year 1 (*rah*) of the *tenggek** 6 This would be the year 51, if we take the 18th century, we would have 1751 of *Saka*, corresponding to the year 1839 of the Christian era.

4, *Usana Bali*. The contents of it are known from the *Tydschrift voor Nederlands Indie* 9th year. 3 deel blz. 245-373. There we have said that it is a work exclusively intended for the people, and not esteemed by the priests. It is otherwise with the *Usana Jawa*, which is held in honour by all casts, at least in *Badong*.

5, *Pamendanga*,† a sort of Chronicle of more recent times; it contains sundry histories of priests and kings, of the distribution of Bali amongst the original *Pungawa's* of *Gelgel*, and

* *Tenggek* is a period of 10 years. *Rat* a single year of that time. Supposing the era to be known, we find it the year of *Saka*.

† From the *Pamendanga* a play is derived, performed by a single person in *topeng's* (masks); it represents the more ancient history of Bali, viz of the *Deva Agung's*.

genealogies of kings, of *Karang-Asem*, for instance. Respecting the division of the viceregencies amongst the *Pungawas*, this work widely differs from the *Usana Jawa*, and its value and style are far inferior to those of the latter. It is also written in prose. Other *Babad's* are found in the family of every prince; if it were possible to gather the greater part of them from the different states, they certainly would spread much light on the history of Bali if carefully compared with each other.

*Tutur's or doctrinal
writings.*

These are divided into two classes, the secret writings of the priests, and such as are also current among the other castes especially the second and third. The former are extremely numerous, but since they are kept secret, we can only mention the names of a limited number of them. They seem to be written, like the *Veda's*, in *Slokas*. The names I obtained, are the following :

- 1, *Buwana Sangksepa* (the shortening or contraction of the world or of men.*)
- 2, *Buwana Kosa* (the treasure of the world.)
- 3, *Wrêhaspati Tatwa* (the Tatwa, truth, the essence of *Wrêhaspati*, the star Jupiter, teacher of the gods.)
- 4, *Sarasa Muschaya* (*sârasa* is explained by *isi*, the contents; it is however probably *sârasa* the *lotus*, *muschaya* is not very clear, but is explained by *kumpulan*, "accumulation" "gathering"; this is one of the works enumerated by *Crawford*.)
- 5, *Tatwa Jnyana* (knowledge of substance, essentiâ.)
- 6, *Kandampat*.
- 7, *Sajotkranti*.
- 8, *Tutur Kamoksa* (vid. infra). Under this denomination exist numerous works; it means, "instruction for blessedness, or for the delivery from the transmigration of the soul."

The second class of the *Tutur's*, current also among the other castes besides the Brahmins, are for instance,

- 2, *Rajaniti* (wisdom of kings), in contains rules for the

* Agama is explained by *Wilson*, Skt. Dict. "a Sastra or work on sacred science and of divine origin." In the Malayan and common Balinese language it signifies religion; in the names *Agama*, *Adigama*, *Devagama*, it has evidently more the Indian meaning, and especially that of *law-book*. *Adigama* seems to have originated in *Adhi* and *Agama*, with the omission of the first *a* of *agama*, a carelessness which is frequently met with among the Skt. words in the Kawi exist *Svatamaparva* for *Asvatthamaparva*. The *a* in Polynesian words is an enphonic prefix, which was then omitted in the Skt. words likewise.

policy and the government of kings, and is in many respects analogous to *Machiavelli's princip*.

2, *Nitipraya* or *Nitisastra* (super abundance, or manual of wisdom), it is of a similar character with the former

3, *Kamendaka Niti* (rules of wisdom of the sage *Kamenduka*.)

4, *Naranatia* (*nara* "men", *natia* "the mimic".)

5, *Ranujanya* (the sacrifice of the battle.)

6, *Titi dasa gunita*, this belongs properly to the first, division but has been made by *Padanda Wahu Rawuh* into Rawi under the name of *Nitisara* (compendium of wisdom)

Law books.

Those are written in prose; they comprise most of the Balinese books which are mentioned by *Crawfurd* and *Raffles*. The accounts of them however differ from each other. Raja *Kasiman* names them.

1, *Agama*. 2, *Adigama*. 3, *Devagama* (that is somewhat difficult to understand.)

4, *Sarasa mûscheya* (the same we just have met with among the secret writings.)

5, *Dustakalabaya* (the fear of the malignant *Kala*) a law-book, in which particular faults, committed by children, are punished.

6, *Swara Jambu* (the voice of *Jambu*), that is "the command, the law of India" *Jambu-Dwipa*.

7, *Devadandu* (in a very old language,) it comes in use when *Wishynu* appears incarnated upon earth.

8, *Yajnyasadma* (*yajnya* "sacrifice"—*sadma*?)

The *Pandita* in *Taman Intaram* mentions only

1, *Agama** 2, *Adigama*. The two lawbooks, mentioned by *Raffles* as the basis of the law for the common people. *Raffles* calls the latter *Degama*.

3, *Purvadigama* or *Sivasasuna* the above *Adigama*, or the command of *Siva*, of value exclusively for the Brahmins.

4, *Devâga ma*, the *âgama* of *Devâs*.

5, *Svajambu*—*Svarajambu*; the meaning is doubtful; perhaps *svara* "voice" "command" and *jambu*, in lieu of *Jambu Dwipa* (*India*), thus "the voice of the law of India."

The principal lawbook of India (by *Raffles* *Menawa Sastra*, *Ind. Manawa*—*Dharma-sastra*) is wanting, according to all queries for it which I made amongst several priests and persons of rank. They however are aware that all their laws have

† Kutara is, following *Wilson*, "the post round which the string passes, that works the churning stick." This explanation is here in no way applicable.

been derived from *Prabu Manu* (the ruler Manu) who in different ages under different names holds the government of the world. I found it mentioned only in the *Sivasasana*, the law-book of the Brahmins under the name: *Dharma-sastra Kutara—Manavadi*; *adi* has here, it would seem, the true Indian sense "*and so forth*," so that the translation will be "*the law-books, those of Kutara, Manawa and others*." Kutara† is also mentioned by Raffles as "a law-book," and is not explained by Humboldt. *Kutara* appears to me to be the same with *Uttama*, viz. the name of the third in the line of *Manus*. The conversion of *Uttama* into *Kutara* is quite possible, and supported by a passage of the *Bráhmándápura-na*: *Utara Manu*, lout. 11. *Uttara* is the comparative, *Uttama* the superlative "*the higher*" and "*the highest*" degree. The *k* before *Utara* I am inclined to regard as the Polynesian prefix, added through ignorance. Opposed to this conjecture, it is true, is the fact that the law of India must have been framed by the first *Manu*, *Slayambhuwa Manu*; but we have various law-books, and those are even yet not all known. Possibly the original Balinese law-book has been derived from another Indian one, although the contents are upon the whole the same as in that of *Slayambuwa*.

This *Dharmasastra Kutara Manawa* is either now in Bali and kept secret, or it is one of the works which existed in Java but were lost and were not brought to Bali. It is mentioned along with the *Sárasa Muschaya** which we learn to be one of the *Tutur's*, further along with the *Kamandaka*, a *Tutur* for obtaining advantage, or intrepidity. A learned Brahmin is expected to be acquainted with all these works. It was not without the greatest difficulty that I got the *Sivasasana* into my hands; however, I may hope to obtain in the like way insight into the remaining law-books and the *Tutur's*. The *Sivasasana* was borrowed by me on the same condition as the *Brahmandapurana*, viz. not to show it to any one of the people. The manuscript of the *Sivasásana* in question was written on the day *Muhulu Pahing Anggara* (Tuesday) of the week *Sungsang*, in the year of *Saka* (*Sakawarsa*) 1682 (A.D. 1760). in the month

† *Sárasa Muschaya* might be explained by: "*the lotus (or the sea) of the nobly born*" if we take *Muschaya* for a corruption of *Amusyyánya* "a man of noble descent" "person of rank." The *a* was easily thrown off, as we have seen in many instances, or united with the *a* at the end of *Sárasa* and becoming thereby a long *á* which however was not more recognised. Another explanation would be "*the lotus to be hidden*," if *Muschaya* may be regarded as a corruption of *Murya*. Both corruptions are made possible by the frequently occurring omission and addition of syllables, and the imperfection of the organ for such words.

Srawana, on the 8th day of the white half, in *Wilatikta*.*) After this the writer makes his excuses in the customary manner for the bad and careless writing, and he has great need to do so, for the manuscript abounds in faults; he pleads his inexperience (*muda*) and inferiority (*hina dinu*). He adds further that the work is a secret writing (*rahasya*) and concludes with the well known invocation,

Siddir-astu, tat' astu astu

Ong Saraswatie namah

Ong g'mung Ganapataye namah

Ong sri Gurubyo namah

Ong ong Kamadevaya namah.

Respecting these invocations we refer to what is said under *Rāmdyana* and *Barata Yudda*. Here only is added Ong adoration to *kāma-deva*. He, the god of love, would thus appear to be peculiarly the favorite deity of the writer. The god of love is indeed highly honored and praised in many of the newer poems, a circumstance the analogy of which we find again in India. We give here the prologue, the text and the translation of the *Sivāsāsana*:

"This is the *Purvādīgama—Sāsanaśāstra-saro—drēta†* first composed by the accomplished old teacher, the raja *Purōhita*, who knows all qualities, who resembles the rays of the sun, who dwells in the hearts of all mankind; *Misraharana*, who as the highest precious stone outshines all the divine teachers of *Siva* (of the Sivaite sect), the lowest, the middle, and the highest; further is he named the first *Guru* the great saint. The same asked for *ashes* after he had obtained permission to ask for *ashes* of the children and grand children of *Sang Bismangkura*(?); the same commanded him thereupon to compose the *Sasanadīgama Sastrasaro drēta* for all priests, as many as held the religion of *Siva*; for the Panditas of *Siva* as well who live in the cities, the perfect ones, as also those who choose to dwell partly in cities, partly in the country, also for the host of the learned, who take care of processes, who

* Where this *Wilatikta* is to be sought for in Bali remains uncertain, it is (*Wilatikta*) the Sanskrit name for *Majapahit*. It is possible that the work was originally written in *Majapahit*, and that the copyists in succession retained the name of the city, where it originally was composed, although they themselves were in Bali.

† This word must be divided, it would appear, into two parts; *Purvādīgama sasana* "the command law of the *Purvādīgama*" and *Sastra Saro drēta* "in which is contained the essence of holy works". The *Saro* is inserted instead of *Sora* and we thus find the nominative case in place of the theme in a composition. This seems to be an error founded very likely in the want of acquaintance with the meaning of the Sanscrit terminations and inflexions, but offering at the same time another proof of the preservation of the inflexions in the memory of the Panditas.

settle disputes between all men, at the court and in the country, this is *their number*. Assuredly the *adigamasastra sarodrêta* must contain the laws for the conduct of them all."

The text follows. It is upon the whole pure but exhibits notwithstanding some faults, ex. gr. *basma* with the common *b*.

Awignam astu Niban Poervâdigama sâsana sâstra-saro-drêta purwa ramba (2) sang t'las wrêddâchârya (3) rāja purohita sarvagunajna, banu-rasini sadrêsa sa'va janabrêjaya, ta Misraharana, sakâlâgra-chudamani sirasi pratistita t'kap sahana parâchârya Siva (4) kabeh, kanista-majottama (5), nidan sira paramâdiguru mahâbagawân (6) tanggehnira, sira pangu daran bâsma ngaranira sakari wnangnira panadahan bâsma t'kapning santana practisantana (7) sang Bâsmangkura, sira atah pramanâken (8) pagêhnikang raksaning sâsanâdigama sâstra-saro-drêta ri para pungkū [9] makabehan sahana sang gum'ge Sivâgama, kimuta sahana sang Budjangga Siva pinaka stawira ring nagara sang sâmpun-krêtta, nguni weh sang mahârep ring nagara lâwan ring pradesa, t'las karuhun sang watêk pragiwaka wyawabara wicedaka [10], sang w'ngang mamgatakên wiwadaning sarva jana ring sabâ [11] mad'ja muang ring pradesa na ta luirnira, yayan sang hyang Adigama sâstra-saro-drêta juga pamakning sâsana kramanirâtika kabeh [12].

The introduction may serve as a proof of the abundance of Sanscrit words in its language and give an idea of the contents, which we cannot further describe here.

(2) *Purwaramba* is divisible into *purwa* "the first or the foremost" and *âramba* "the beginning". The work is first written by Pandita *misraharana*.

(3) The Pandita is *wrêddacharya* (*wreda* "aged" and *achara* "a spiritual teacher") "the aged, experienced teacher"; further *rāja Purohita* "a royal Purohita [domestic priest vid, below.] *Sarrogunojaya* (he knows all the *gunas*), which as we have seen above are three, viz *Satwa, rajas, tamas* "He is like the rays of the sun; and enlightens the world by his wisdom; he dwells in the hearts of all men, and is beloved and honored by every one". *Misraharana* is a genuine Indian Brahmanical name; *misra* is found in many names, it signifies "a person of distinction". *akalagra chudamani-sirasi-pratistita* &c., "he stands above the head of all Brahmins, as the precious stone *chudamani* is the highest extremity of the head ornament [of *Siva*]

(4) *Parâcharya Siva* with the addition of *Kabeh*; *paracharya* means "all the teachers"; *acharya Siva* "the teachers of the *Siva*-worship" contrasted with the *acharya Budha*

“ the Buddhist teachers.” However even in this work, which bears such distinct marks of Sivaitism, we find proofs of intermixture with Buddhism.

(5) *Nista majattama* is known to us from the Us. Bali, pag 340. Here, however, are meant the various ranks of the priests, depending on their learning and piety.

(6) The writer is also *Paramâdiguru* “ highest of the *Guru's*” (vid below *Guruloka* ;) further *Mahabagawân* “ the most holy” bagawân is the title of the *Resis*, e. g. *Bagawan Trinawindu Maharsi* is an inscription on stone, in the possession of the Batavian Society, lithographed in the XXIst volume of the Transactions; it is also found, although illegible, in Raffles I following page 42. This title is very frequently given in the Balinese writings to holy men.

He requests *busma* “ashes.” Ashes are usually spread over the body by the Sivaites in India, and are used by all penitents together with cow dung. On Bali *busma* is explained to be *chondana*, i. e. pounded Sandal-wood mixed with odoriferous oils, and this is frequently used in religious ceremonies. The loathsomeness of ashes and dung seems not to be reconcileable with the Sivaitish religion on Bali. *Siva* is considered on Bali rather as a friendly god, a god of light, who is not pleased with such impurities. *Kāl*, for whom they chiefly are designed, (the black malignant god) does not enjoy such prominent worship as in India. I have however also seen Balinese, who besmeared the lower parts of the body with some black matter; but on enquiring whether it was cow dung, I was answered in the negative. A distinction must be made between this and medicaments. *Sang Basmangkura* can be no other than *Siva*; the word is not very clear, but *Siva* is frequently represented in India as a penitent, besmeared with ashes and cow dung, the name *Basmangkura* seems to be applicable to *Siva* under that form. The practise of spreading ashes over the body thus still prevailed in the time at which the work was first written. The request of the Pandita of *Siva* for ashes is similar to the existing custom of the Balinese, who ask in the temples and of the priests for consecrated water; common ashes could not have been used by the Pandita for his religious observances, just as common water has no purifying virtue for the people.

(7) The position renders it uncertain how *Santana protisantana* is to be construed. The words naturally appear to belong to *Sang Basmangkura*, but the sense requires us rather to refer them to the *Pandita*; this construction, it is true, is a forced one, we should be compelled to read it thus

Sakari w'nanngnira t'kopning santanꝑ pratisantana panꝑ-dahan basma sang Basmꝑngkura "since he had power [he] with his children and grand children to ask ashes of *sang Basmꝑnkura*." Even thus arranged it still remains imperfect, because we should expect to find the prefix (ring) before *Sang Basmꝑngkura*. It cannot however be supposed that the children and grand children of *Siva* are here spoken of.

(8) *Pramandken* a derivation from *pramāna* "the principal object" thus "to make ones chief object". *Pugéhnikang raksaning sasana diguna* would seem rather to convey the meaning "to preserve, than to make, the *Sasana*." It must of course be supposed, or rather it is known, that there existed a more ancient law book. The Pandita then only receives the order, to make a rescension, which is to be used for all the Brahmins in the cities and the country, and those who exercise judicial powers. This very probably is also indicated by the addition of *Sastrasarodrēta*, which I translated, although not justly according to the Indian rules of composition, "in which is contained the marrow (medulla) of the sacred writings [the codices] ;" certainly indicating the earlier existence of other sastras, of which *Misrahꝑrana* only made an extract or review.

(9) *Pungku* is explained to be *Pandita*. It is repeated here once more, that the new law book shall be used for all the priests, who adhere to the *Sivágama* "the worship of *Siva*."

(10) *Wyawahára—wichedaka*. *Vjavahara* (following Wilson) "contest at law" "lawsuit" "process" *Wichedaka* from *wichehed* "separation," "disjunction" "dividing," "cutting" from it is derived *wichedaka* "one who divides, separates" thus in the case of a suit he with whom the judging and decreeing rests; the whole composition thus signifies a judge. To this comes *sangw'nanng mamgatakén wiwadaning sarva djana* "one who has authority to settle minor differences among the whole nation," (thus juge de paix.) From this it would appear that the Brahmins have jurisdiction, criminal and civil, which is also noticed by Raffles. In *Bali* notwithstanding only a few of the judges belong to the cast of the Brahmins, in *Badong* only one. The supreme judge in *Pamchuttan* is a Brahmin; the others are eligible from all casts, and are generally *Sudras* who are well acquainted with the common law-books, the agama and adigama. In spiritual affairs the Panditas are the judges, so as in political concerns the princes:

(11) *Sabá* (aula regia) the Indian name for the Court of

the princes, which in Java has by the prefix *pa* and the affix *an*, been changed into *paséb-an* which also by its form answers to the open place of audience of the princes.

(12) The *Sivāsasana* or *Iurvddiḡamas.sana* is thus the law book for all the Brahmins, in the cities as well as in the country, and for those in whose hands the jurisdiction is deposited as well as for the rest. It is not, however, applicable in the decision of the lawsuits of persons belonging to one of the three lower casts.

There further exists in *Bali* a law-book, called *Svara*, issuing from the *Deva Agung* and in force for all princes and persons of rank. It cannot as yet be ascertained, whether it is the same work with the *Svarajambu* (or *Sv-ajambu*), but it seems to be a different one since the addition of *Jambu* in the latter points to its Indian origin.

(*Explanation*) *Tatwa* or *Tu'ur kṛmoksā* (vid. above) contains rules for a religious life with special directions from the birth of a man up to his death; It is frequently in requisition for fasting (Ind. *vrat* v^otum). In accordance with those writings not only the *Podund s* regulate their lives but also the princes and those of rank who aspire to the condition of holiness; they attain thereby the dignity of *Resi* (a saint, without sin,) and the priests become *Brahmarsi*, the princes *Rajrsi*; the latter of course, as it is natural, stand in consequence of their birth in rank below the former. Every prince must properly aim at this dignity, and the *abiseka* "the anointing" of the chief prince is dependant upon it. By becoming *Resi* and by the *Abiseka* not only the dignity of the prince is raised, but he is thereby as it were received into the cast of the Brahmins;—the like rule is also observed in India. The predecessor of the last Sovereign of Pamchattan was *Resi*, and had received the *Abisēka*; even as the former *Deva Agung's*. At present there is no prince of Bali who has received the *Abiseka*. The *Rájá Kassiman* however aims at the dignity of *Resi*.

Malat.

The *Malat* contains the history of the celebrated hero *Panji*; who had his adventures on Bali also. The work is as voluminous as the *Rāmāyana*; it is however not written in the *Kawi* measure or language, but in *Kidung*, which means the newer Java-Balinese measure. The subjects contained in it, are exhibited to the public in the *Gombuh* (dramatic performances by men, who speak themselves.) The same is the case with the *Ramayana*. The *Barata*

Yudda and *Wiwaha* are represented in the *Wayang Kulit* in the same manner as on Java. Of the Indian drama nothing seems to have found its way into this island. The names of the most famous of the Indian dramas are unknown there. The tale of the *Sakuntala* is known from one of the *Parvas*, and the original narration we find also in India in the *Mahabharata*. But the magnificent drama *Sakuntala* of *Kalidasa* is not known. The reason of this is probably that most of the Indian Dramas are of late times, and perhaps at the time the Brahmins came to Java, were exclusively found at the courts of the princes of *Ujayini*, *Cashmir*, *Ayoja* &c. so that the Brahmins could not be acquainted with them. Besides, the Drama forms no part of the sacred literature, and the Brahmins might have neglected it for that reason.

(*To be Continued.*)

PIRACY IN THE INDIAN ARCHIPELAGO.

By SPENSER ST. JOHN, Esq

AN article appeared in the *Examiner* newspaper of the 21st of October last, which has been attributed, rightly or wrongly, to a gentleman whose authority in all questions relating to the Eastern Archipelago, has been justly regarded with great respect.

As this article, however, appears to me unjust to the writer of the article entitled "Piracy in the Oriental Archipelago" in the *Edinburgh Review* of July, erroneous in point of fact, calculated greatly to mislead the public, and above all to obstruct the vigorous measures carrying on for the suppression of the marauders who infest the Eastern Seas, I am desirous through the medium of the *Journal of the Indian Archipelago*, (so justly held in esteem by the writer in the *Examiner*) to disprove his assertions by a simple appeal to fact, and to remove any impression which may have crept abroad, that Malayan piracy is a "nuisance" rather than a curse, and that it is to be regarded in any other light than as a very formidable and frightful system.

It is by an appeal to facts, and facts alone, that this question must be decided; and reversing the order pursued by the writer in the *Examiner*, I shall at once approach the subject of Piracy, and endeavour to show, how erroneous are his assertions, and unjust his criticism of the article in the *Edinburgh Review*.

The writer complains first, that the statements regarding piracy in the *Edinburgh Review* are grossly and ridiculously exaggerated both in character, number, and extent, that the infidelity of the picture equals Pinto's account of the treasures of Maslatan, that the writer of the article has huddled together the attributes of different stages of society, that piracy is incompatible with industry, with neat houses, or trim gardens, that to Mohammedan fanaticism, the koran in one house, and pickled heads in the next, is an impossible association, and concludes this list of charges, with one broad and distinct assertion, by stating that, "*The pirates of the Archipelago are a nuisance, but they are not formidable as we know by the results.*" "*They have never captured a vessel however small with a European crew, or even with a considerable part of the crew European. They have never captured a Chinese junk; the achievement is above the weight of the combined fleet.*"

To understand rightly the character of Malayan piracy, we must extract from good authorities, the description of the first and second class pirate prahus, and thence we may form a judgement, how far a number of these vessels would be capable of capturing a merchant vessel with a European crew, or a Chinese junk. The courage and audacity of these marauders are attested by every competent person, and proved by their acts, and we need go no further than to mention the testimony given by Sir James Brooke, the late Captain Charles Grey, and Captain Wallage on this point, who all three declared the coolness and fire eating propensities of the Baliuini in action with the *Nemesis*, as worthy of all praise even from an enemy.

Forrest in his voyage to New Guinea, as early as 1775, gives (at page 225) the dimensions of a pirate prahu, which he actually measured. "She was," he writes "from stern to tafferil 91 feet 6 inches, in breadth 26 feet and in depth 3 feet 3 inches." Her complement was ninety men and she could "row with forty oars or upwards of a side." She had engaged and captured a Dutch sloop, and brought 70 slaves to Mindanao. Sir Stamford Raffles, writing of piracy in 1811, (page 47 of Raffles' Memoirs) quotes from a letter of Mr Buin, as follows:—"A few days ago Pangeran Anam, came out from Sambas, with two small ships; one of them mounts ten guns, and the other eight guns, with some armed prahus. Two Chinese junks just arrived from China, and then lying on the bar of the Pontianak river were attacked *by their boats*. One of these junks having a valuable cargo on board, was boarded and carried off instantly by them, the other was relieved by the Sultan's armed prahus who went to their assistance."*

Captain Congalton saved a Chinese junk from capture by 12 Baliuini prahus, and many, very many Chinese junks have been captured by these pirates at various times, as might be shewn if needful, and indeed what could save them falling a prey to one vessel, above described, when we find a Chinese junk cut out by the boats of a pirate squadron?

Again, Temminck thus describes a Lanun prahu captured in 1843 by a Dutch expedition, "Continuant leur exploration, ils brulerent 34 prahoe dans le detroit de Boneroté; puisse ils donnerent chasse à 17 grands batiments pirate de Magindano dont deux feurent detruits; ceux-ci portaint 100 hommes d'

* About this time the ship *Commerce*, having lost her rudder and anchors, was taken and burnt by Pangeran Semuods not Rájá of Sarawak, but Pangeran Meoets's father:—vide, *idem*.

equipage et l'un d'eux etait arme de 15 pieces de canon.'

In 1847, as may be ascertained by reference to the pages of the *Singapore Free Press*, from 40 to 60 pirate prahus issued from Baliniui, and ravaged a great portion of the Archipelago, swept the Straits of Banka, burnt a village not far from Singapore, carrying off a portion of the inhabitants into captivity, and exchanged shots with a Dutch fortress on the coast of Borneo.* Eleven of these prahus were attacked by the H. C. Steamer *Nemesis*, and the largest of the number taken was judged by Captain Grey, Captain Wallage, and most of those aboard, to be eighty feet in length and to have fully a complement of eighty men. This prahu was unluckily burnt and sunk, during the action, after a desperate resistance, but a boat of the second class captured was about 70 feet long and 12 feet broad, and it was deposed by the principal persons present that the average number of the crews, was forty men to each of the eleven prahus, and that they each carried from 4 to 6 guns. The largest boat mounted an iron 9 or 10 pounder besides 6 or 8 small guns, and the number of rifles and muskets as well as the skill of the owners in their use, was proved by the list of the killed and wounded in the English boats. This is a cool appeal to facts. In the years 1775, 1811, 1843, and 1847, the description of the larger pirate prahu agrees, and we have the clearest, fullest and purest testimony, that piracy is of the most daring and dangerous character, and with such vessels how could it be otherwise, and yet the writer in the *Examiner* says, it is not formidable, a mere nuisance, a sneaking piracy.

The exaggeration in the statement of the number of pirate prahus, which the writer of the *Examiner* ridicules so severely, we shall soon dispose of, by a second appeal to facts, and we premise that be they pirate ships, or pirate prahu, or even "*the herring boats*" of the writer, that they are very numerous, and therefore very formidable, from the number of men employed in this trade of destruction.

Sir Stamford Raffles in addressing Lord Minto writes,— "Of the numbers of the Lanuns it is difficult to form at present any particular estimate; I apprehend, however, they cannot in any way be estimated at less than 10,000 fighting men." From the number of men we may judge the number of prahus, and we shall have a fleet of 100 Lanun boats, each carrying 100 fighting men, with the Pangeran Anom, and Assing Rasil,† in their two small ships. And this is the

* This fact is stated in the *Java Courant*, an official paper.

† Assing Rasil cut off the ship *Malacca*.

force that never captured a Chinese junk!!

We have however other testimony.

In the Possessions Néerlandaises by Mon. Temminck, it is stated (vol. II p. 233) that the pirate prahus of Billiton in 1821 amounted to 200.

In 1822 (p. 233) the Royal frigate *Melampus*, and five vessels of the Colonial Marine with a 1,000 auxiliary native troops, in an expedition captured 50 pirate prahus. In 1823 on the same authority, it is stated that a certain Rájá Djilolo—venant même exercer ses violences jusque sous le feu du fort Victoria á Amboine—this Rájá was attacked and eighty of his prahus captured. In the *Moniteur des Indes* vol II p. 20, it is stated that on the 28th of June, 1839, on the Eastern Coast of Sumatra, the Dutch troops were attacked by 200 pirate prahus; the troops were near the shore, nevertheless they were enabled to repel the enemy. This fact is re-stated and corroborated by Monsieur Temminck at p. 259 vol II.

Numerous other examples might be adduced, from these and other authors; Kolf, in the voyage of the *Dourga*, gives an account, that from two places in New Guinea, the Papuas “send out every year from one hundred to one hundred and twenty small vessels, on piratical excursions;” and on the authority of Sir James Brooke, we have the fact, that 100 Dyak boats passed up the Sarawak river to the attack of some interior tribes, and it is now fully established, that the rivers of Sambas and Sakarran can send to sea 200 boats, or even more, and that the crews cannot be calculated at a smaller average than 30 men to each boat, thus giving at a moderate computation a body of 6,000 marauders on the high seas. It is true that these “*herring boats*” rarely attack European vessels, but the amount of bloodshed, of trading prahus captured, of villages burnt, is as great, as though they were Northern Sea Kings or Buccaneers, or Lanuns, and if we are to confine our sympathy—as the writer in the *Examiner* seems to do—to Europeans and their vessels, and allow the sources of commerce to be destroyed—we should much resemble the man who killed the goose with the golden egg; the destruction of the producing class, and the capture of their prahus has already in some places, destroyed the returns on which our trade depends, and together with European restriction and native oppression and misgovernment, will ultimately reduce the commerce of these seas, to its minimum, and leave undeveloped the riches of islands pronounced by Colonel Farquhar and Sir Stamford Raffles to be equal to the riches of Brazil and Mexico,

When the author of the article in the *Edinburgh Review*, describing a smaller kind of pirate prahus, asserts them to be from 8 to 10 tons, the writer in the *Examiner* remarks that they are in fact no better than "*herring boats*," and then proceeds to make some very whimsical calculations, as he had just before done, proving that every fleet, whether national or piratical was to be calculated as composed of the aggregate of the very largest class of vessel, or the very smallest; for instance:—a first-rate in H. M. Service carries a war complement of 1,000 men, and should a writer after the description of a first-rate, be describing a schooner, carrying 20 men, one of a fleet of 100 vessels, the writer in the *Examiner* would conclude the complement in men, of the fleet mentioned, amounted either to 100,000 men or 2,000 men, and either way he would be as wrong, as he has been in the article we now notice.

These very "*herring boats*," however, which the writer asserts *could* not accommodate more than 15 men a piece, are a class of vessel of which he is evidently totally ignorant, and it will be worth while to describe a boat of the class certainly not ten ton, and allow the writer to judge, how far his conclusion is correct. Two hundred vessels of the sort, some larger some smaller, are to be found in the Sarebus rivers, but as a type we prefer to take the measure of a Sarawak boat, which is now lying in that river, and which may be seen by any person curious enough on the subject—her length is 60 feet, her breadth 9 feet 6 inches, and her depth 2 feet 6 inches. Nevertheless this "*herring boat*" (which in tonnage carries absolutely next to nothing) has a regular complement of 60 men and sometimes more. The writer however positively asserts and would have us believe, that a boat of eight or ten tons cannot accommodate more than 15 men!!

These facts will shew, we believe, that the pirates of the Eastern Archipelago possess a very large and dangerous class of vessel, and that their fleets are very numerous and very formidable. That these fleets are all composed of the largest class of vessel or the smallest, as the writer would have us imagine, we do not believe, but if we give the Lanun, Balanini or Dyak fleets at a moderate computation an average of 35 men to each boat, we shall have 7,000 buccaneers out at once, and we cannot suppose for an instant, that all the fighting men are out at one time, or that these fleets always remain together; on the contrary, their safety and their interests point out a superior mode of action for obtaining plunder, and they usually divide into moderate parties, and thus attract the less

notice and obtain more profit both in slaves and merchandize.

The examples, as we shall hereafter shew, are numerous enough of all classes of vessels having been captured by these Sea Kings, but we must bear in mind, that the trade of a pirate is plunder and not war, and that they have no desire to come to blows with Europeans, when they can fill their pockets by the easy capture of natives. Is the devastation and misery however, less, because they usually cruize in small squadrons, instead of large fleets? or because they capture a great number of natives without risk, rather than a smaller number of Europeans who offer a desperate resistance? The result is the same. This piracy is a curse and not a nuisance, a disgrace to the nations, that, being cognizant of its existence, fail to crush it beneath the foot of power.

It has been—we hope it will not long continue to be—the sacrifice of the population and commerce of the Archipelago, the sacrifice of the good, and the peaceful inhabitants of the Archipelago to these marauders, and may the guilt rest on the heads of all who shrink from measures of extreme severity, or disguise the hateful and formidable features of this crying evil. Let us now, having given, on undeniable testimony, the size of their prahus, the force of the crews, their undoubted courage, and the number of the vessels which compose a fleet, proceed to show the achievements of these buccaneers, the vessels they have captured, the engagements they have fought with vessels of war, the lands they have invaded, and the captives they have carried away into captivity.

We shall show this, on the same authorities we have already quoted, and we only regret that our space obliges us to be brief in our description, and prevents our completing a picture of which few Europeans have a clear idea, though living in the vicinity of the countries where such horrors have been till recently carried on with comparative impunity.

Sir Stamford Raffles in the letter above referred to writes “The Lanun vessels are the best native craft, that appear to the Eastward; they carry very heavy guns, and have repeatedly succeeded not only in taking *stout merchantmen*, but even *Dutch cruizers*”

Again in the History of Java (vol. I p 246,) Sir Stamford expresses himself in the following forcible terms. “The pirates as they drive the peaceable and honest trader from the coast, recruit their numbers from among the seafaring

men to whom he used to give employment. 'The decay of commerce is accelerated, and the natives retreat into the interior, when, for want of a market, they cease to collect the rich productions of their country, and rapidly sink into poverty and barbarism. The sea and the coast remain a scene of violence, rapine and cruelty—the mouths of the rivers are held by lawless banditti, who interrupt the trade of those who inhabit their banks, and capture the vessels destined for the inland towns, the bays and harbours are entirely within their power, and in these smooth seas, they are never driven a moment from their stations, or diverted by danger from their predatory vigilance."

We must refer the reader to the well known and common work from which we have quoted, but I cannot forbear extracting the following remarkable passage so directly in contradiction of the writer in the *Examiner*. "The practice of piracy, writes Sir Stamford Raffles, is now *an evil so extensive and formidable* that it can be put down by the strong hand alone."

How dark and lamentable is the picture here drawn by a talented and amiable person, and the impartial testimony of this great man is fully borne out by other and subsequent authorities. Mr Crawford, on the authority of Monsieur Van Angelbeck, allows that piracy is a terrible scourge—"ce terrible fleau") Vol. II p. 240, "Possession Neerlandaises"—The description of piracy in the pages of Monsieur Temminck's work just quoted, is even darker and more frightful than that found in the works of Sir Stamford Raffles. How melancholy is the following passage for instance. "On ne saurait disconvenir que les années 1826 et 1827. même jusqu'en 1829 n'aient été fatales pour la navigation et le commerce dans les mers de l'Archipel; plusieurs captures faites dans ces années par les pirates, constatent ce fait. Vol. II p. 241.

Brevity alone, obliges us to omit many similar passages from this and other works, and the testimony of Sir James Brooke fully bears out the statements of Raffles, of Crawford, of Temminck, of Seibold, and numerous other authorities on this subject.

In spite, however, of such evidence as we have now adduced, the writer in the *Examiner* asserts that the pirates of the Eastern Archipelago, are "a *nuisance* but they are not formidable!"

This frightful system of rapine and violence is smoothed down into a common *nuisance*, and the public, unacquainted with the condition of these countries is led to believe that

little trouble need be taken to suppress a gang of petty plunderers.

When we consider that each pirate prahu carries away on an average about twenty captives into hopeless slavery, and that the number of these prahus, at a very moderate calculation, amounts to several hundreds in the Archipelago (as we have already shewn,) every humane and reflecting mind must be shocked, at the extent of this crying evil, and its most unhappy results. When we further consider that no single island of the entire Archipelago has been clear from the descents of the pirates, we may judge how formidable is the system. The coasts of Java, Sumatra, Borneo, Bali, Lombok, Celebes, New Guinea, the Philippines, and other smaller islands have each experienced this terrible scourge, have withered beneath the blighting influence of this tremendous plague. In the more civilized country of Java, post houses have been destroyed, and the unfortunate natives made slaves by the pirates, until for the protection of the island fast native prahus were employed, and, as Mr Temminck writes, "ils furent échelonnés le long des côtes de Java" Vol. II p. 232. When such precautions were necessary to guard the rich possession of a European nation, we may judge the amount of suffering and misery inflicted on the inhabitants of the more remote and less civilized islands, and gain a faint and imperfect idea of the extent of an organized system of piracy, rarely equalled by the Ancient Greeks or the Sea Kings, and never exceeded by those formidable buccaneers. We must refer our readers once again to the works from which we have quoted for a confirmation of the description here given, and we may approach the conclusion of our task, by stating a few more plain facts in contradiction to the writer in the *Examiner*.

In the pages of Raffles, Temminck and Seibold, we have the names of above 30 merchant vessels captured by the pirates, and they are but a small portion of the loss, sustained by the shipping of European nations within a period of about 30 years. It is repeated frequently in the work of Mr Temminck, that numerous captures of merchant vessels were made from year to year, which he forbears from mentioning in detail, and the pages of the *Singapore Free Press* alone, if consulted would show, how great a number of merchant ships have fallen a prey to the pirate of the East. As the writer however has made a distinct assertion, that no Chinese junk or merchant vessel with a European crew has ever been captured, we are tempted, having previously pro-

ved the capture of a junk, by the boats of a pirate squadron, to prove likewise the capture of European manned merchant ships.

In the *Moniteur des Indes* I find the account of the capture of one English and four American whalers, and beyond a doubt amongst the number of vessels taken, which are expressly recorded by name, and the greater number unrecorded, many were merchant vessels with European crews either in whole or in part.

To shew still further the daring of these pirates, I am further tempted to mention some of the vessels of war with which they have engaged.

In the year 1812 the British schooner of war *Wellington*, supported by two gun-boats, and six native prahus, attacked a piratical squadron and the result is thus described. “Le plus grand navire corsaire *accosta* Le *Wellington* que n’échappa qu’avec peine a l’abordage.” “Au mois de mai suivant les pirates soutinent un combat contre les Chaloupe armées du navire de guerre *le Modeste*.” The Netherlands cruizer *Iris* in 1823 engaged the pirates, and it is stated that the schooner of war *Doris* escaped by *good fortune* from the pirate force, which had previously captured a Dutch cruizer (Temminck vol. II p 232) To give a just and clear idea of the power and audacity of these pirates, we must mention too the force in guns of a man of war schooner, and on the authority of Monsieur Temminck it is stated that the smallest class schooner carried from 12 to 14 pieces of cannon, and the piratical fleets, which combined have been asserted as unequal to the capture of a Chinese Junk, only failed from bad luck from taking such a vessel of war! The assertion of Sir Stamford Raffles that even Dutch cruizers had been captured previous to 1811 is fully confirmed by Temminck, and the capture at a subsequent period of four Dutch cruizers is recorded by that gentleman. Yet, the public is led to believe that piracy in the Eastern Seas is a mere *nuisance* and *not formidable*.

When the writer in the *Examiner* asserts that piratical pursuits are incompatible with industry, with good houses and neat gardens, he forgets that piracy has been considered heretofore an honorable pursuit, and he might with equal justice have asserted that Louis XIV would not love war and fine buildings, or that the Duke of Wellington, the warrior of the age, was incapable of enjoying the luxuries of Apsly house, or appreciating the beauties of his park at Strathfieldsay. One fact however ought to convince before

a thousand assertions, and the officers of Sir Thomas Cochrane's squadron, who attacked the piratical town of Tampasuk will bear witness to the neatness of the houses, to the gardens crowded with fruit trees, and flowers, which surrounded them, the industry of the people, and the abundance of the land. No community on the N. W. coast of Borneo was more addicted to piracy, and at the same time more industrious than the people of Tampasuk, and we must with this single fact leave the reader to judge whether piracy and industry are so totally incompatible as they are asserted to be.

I must now close these remarks, which have extended to a far greater length than I originally proposed, and if I leave unanswered some other assertions made by the writer in the *Examiner*, it is from want of space and time, and not from want of proof of their incorrectness. Every line in the article referred to, contains a fallacy or is positively incorrect, and I have through this Journal noticed the false impression conveyed by the article in the *Examiner* to the public, on the piracy of the East, because it appeared to me a question of importance that on this subject at least, the minds of our fellow-countrymen should not be misled, and that they should again and again be informed of the amount of loss sustained of European and native shipping, and the misery entailed on the unhappy people of these lovely islands by the ravages of the pirate fleets.

I ought to apologise for making this Journal the medium of what may appear a controversial paper, but the subject is most important, and it is necessary on the spot to bear out the views of the leading Journal of Europe, and to render justice to the author of the article entitled "Piracy in the Oriental Archipelago."*

With this view alone I have written the preceding remarks, and I will conclude with the assertion, fully borne out I believe by the facts I have already stated, that piracy in these seas is a great and blighting curse, and if allowed to continue or increase may become a national disgrace. I propose at some future time to continue this subject.

* We would not have allowed this Journal to be made the medium of defending the *Edinburgh Review* and answering the *Examiner*, if we had not been satisfied that the writer has higher than merely controversial objects, and been conscious, at the same time, that piracy has been too much neglected in these pages. We have been withheld from offering any information on the subject, by the promise of a full account of it, long ago made to us, by a gentleman who is in possession of ample materials for its elucidation.—ED.

SKETCHES AT THE NICOBARS.

HAVING recently visited the Nicobar Islands, I shall endeavor in the following pages to give some sketches of the manners of their inhabitants. The first Island where we stopped was Car Nicobar, the most northern of the group. At a short distance from shore, we were hailed by a canoe fitted with outriggers and having from five to six natives in it. In the distance we only saw in the shape of dress two hats amongst the whole party, and nothing else, but when they came nearer we found each man had a piece of cloth round his loins of about two inches in breadth. On coming on board, these natives showed the most easy coolness and confidence, they took possession of the poop, sat upon our chairs, crossed their legs, and prefaced all their questions with "I say." Their principal demands were for muskets, hatchets, cloth, and, mirabile dictu, soup ladles. We could not imagine to what use the soup ladles were to be applied, till we found that with silver wire the women adorn their arms and fingers. I told them I was coming on shore and going to make a house, to which they evinced the most strenuous opposition, asking if I was a Padre. We found all this opposition arose from a recent visitor having filled their minds with suspicions of the Danes and other white people, persuading them that the consequence of Europeans, especially missionaries, settling amongst them, would be the ruin and depopulation of the islands.

The next morning we landed in an open sandy beach, whereon I determined to pitch my tents. I took a walk into the jungle, where some of the trees, the *Barringtonia speciosa*, grow to a most glorious height. I passed through two or three villagcs. At one where I stopped to drink a cocoanut, there issued from one of the houses a young female with a Junonian walk and not unlike in appearance what I could fancy the Samian goddess, her arms, her thiuly clad limbs, her face were all of the most elegant proportions. The young lady, the next night I was on shore, and when fast asleep, paid me a visit, but alas for my vanity which was highly tickled, it was only to beg an empty pot which had held herring paste which she had seen and mightily coveted! I gave her at the same time a looking glass. She looked at it and asked its use, to which I replied, to see her face, for I never knew a young damsel who did not glory in the reflection

of her own charms Miss Come-again, for that was her name, wound up by asking for a fathom of cloth, which she got. The natives are insatiable in their demands—they stick at nothing, they have at times asked me for all my instruments, for my dip circle, particularly the needle, which, in flying about, excited their unbounded admiration. On Monday morning I sent my tents on shore to have them set up, and I came on shore about half past eight. Here I was met by Captain Jim Booth, one of the Patriarchs I presume, who asked me how long I was going to remain. I told him six or seven days, perhaps more. He said “you tell true, no tell lie?” Captain H. came ashore about three hours after, and found the whole campong in a turmoil, they were beginning to show passive resistance by refusing to have any sort of trade with us, and taking me to be a Padre, they had concluded that I was going to build a house and remain there to the destruction of the population. Reports had been spread over the Island intimating that a Padre had come, and on Monday there was a general rendezvous at Anong, the village opposite to which we had anchored. Delegates came from all parties, nay there was an appearance of a Garde mobile, for two attended from the village of Sawa with fusils, one of which had lost the hammer, and the other, which was a percussion one, was unprovided with ammunition. This valiant army, when they found their services not likely to be called for, returned to the place from whence they came, and as their red cotton night caps were being gradually eclipsed by the increasing density of the foliage, I could not help exclaiming “Begone brave army don’t kick up a row.”

Near to the place I had pitched my tents, was a shady retreat to which I retired to take the dip; this still more excited their fears, for it was the spot where they throw out the bones of the dead, after they have been buried for about a year. While I was actively employed, a man with the euphonious title of Captain White came to me with his breast all covered over with little bits of green as if he had been bathing in mint sauce, but which he assured me was “black man’s uedecine” and told me that this was the burial place of his tribe, and then took me to show the spot, holding on to me like grim death. He pointed to a confused mass of human skulls, and thigh bones, and jaw bones of pigs, all heaped together, and remarked “plenty black devil got there,” which, considering that these bones belonged to his Fathers and Grandfathers, was highly complimentary. On returning to the dip circle he became quite enthusiastic at remarking

the oscillations of the needle, which he thought was symptomatic of its distaste to those black devils, again pointing with his finger to the osseous remains of his ancestors lying scattered and dishonored. Captain White was evidently in liquor, as it was unpleasant to be in his immediate vicinity, I therefore gave him his congè. I may here mention that the horror of the natives for these burial grounds is excessive. No inducement could prevail upon them to go there at night, and during the day they look all about them most carefully to see if there are no black devils to terrify them. I found it therefore my safest plan to take up my quarters as much as possible during the day in this burial ground, and by that means I got rid of their ceaseless importunities, which became at last a nuisance perfectly intolerable. On the same day after our dinner we called in John Bull and Jim Booth, two Nicobar Elders. They came into my tent in full Nicobar travelling dress, that is, a black hat and about a fathom of cloth of two inches in breadth; whatever length is superfluous whisks out behind, and I observed that the fast young men and the bloods rather affected the flaunting tail, which when they walk has a majestic effect, but when they run whisks about horizontally in most serpentine waves. Jim Booth and John Bull were accommodated with chairs, and as I had hinted to my servant, an old mussulman, who had appeared horribly disgusted with them, and rather looked down upon me for tolerating them—that upon his attention to serving them depended his being assassinated or not, he worked away to help them as if they had been most formidable burra sahibs. As I found that, according to Nicobar etiquette, our two guests did not take off their hats, and as I had seen sundry articles proceeding from mysterious corners, I determined upon having an inspection. I therefore begged Jim Booth most politely to lend me his castor, which he willingly accorded, and certainly the contents were most extraordinary,—a small bottle of salts, two dozen of pills, a handful of tobacco, an old seidlitz case containing letters, a roll of pandan leaf for the manufacture of cigars, and a langootie. I then begged John Bull's—his contained the tobacco and the pandan leaf, two langooties, one a very old one, several very suspicious pieces of old cloth, a couple of old books, three or four rusty tenpenny nails, a piece of ambergris, and about half a catty of bird's nest done up in such filthy old duds that I thought, as I unrolled one after another, I should at last develop a mummy. What precious soup this would make, thought I, as I came to the last roll and struck upon

the bird's nest. Well, after this who will make use of a carpet bag or a portmanteau, when a man can stow away all this in the crown of his hat! Jim Booth was a remarkably acute character, his quickness in catching up the meaning of words and learning them off was truly extraordinary. A remark was made after the inspection of John Bull's hat that he was very cunning. Jim Booth immediately asked what the meaning of cunning was, which he could not understand as being different from cheating, at last Captain H., who was sitting at table said "Well, you agree to give me 200 pair of cocoanuts, and you give me one half bad, that is cunning"—"No", replied Jim Booth immediately, without a moments hesitation, "that is cheating". Jim Booth's acuteness is most wonderful, and he only requires a little education to make him a superior man, but he is false hearted, and incapable of friendship—John Bull is really a sterling character, and I would place the greatest confidence in him. Their desire to learn new English words is unbounded, and their aptitude at seizing the sounds and the facility with which they retain them is astonishing. Our two heroes eat and drank considerably,—nothing appeared to satiate them. John Bull after eating a fearful quantity of beef and biscuit, asked for rice, and two or three platesfull being as nothing, and seeing him still like Oliver Twist asking for more, I determined to polish him off with a mixture of the most incongruous materials—butter, mustard, pickles, pounded beef, sugar, sardines, tea leaves, anchovy sauce and cayenne pepper;—but the Heathen smacked his lips, and said it was very good, and asked for a little more wine. I had already helped him very largely to wine, a sour acid stuff bought under the name of sauterne, that tasted like vinegar which had been kept in a Hock cask, and John Bull expressed his sincere admiration thereof, but observing me sticking to Port, he startled me by asking for some. I assured him the nastiness he was imbibing was the best of the two, but, as he said very justly, what I liked he liked all the same, with a heavy heart and a reluctant hand I poured him out half a tumbler which he swallowed with infinite gusto, smacking his lips, and striking his insatiable paunch, remarking, "yes, good", then heaving a sigh "very good, two all the same", pointing to the scraggy necked bottle of wisly washy which I had had opened for his especial benefit, I could have killed the wretch for instituting such an odious comparison.

I went afterwards to one of their houses for a few minutes, and found three gentlemen with arrack and tobacco keeping it up at a very fast rate. The singing is harsh but not un-

pleasing—they all three sang in concert, and one had a very rich mellow voice; no instrument accompanies the voice, but there is much greater modulation in the tones than in the monotonous drawl of the Malays and Javanese. It is not very unlike the Chinese.

A few days afterwards Captain H. and myself went to a great feast at Kameeooos, about 10 miles away on the S. E. extremity of the island. We started about 3 in the afternoon. John Bull preceded us with a stick on his shoulder with a couple of yams at one end, and a grog bottle at the other with a reed stuck in it, so that he could take a suck without stopping. We had a tiresome walk of it—the road was over coralline debris which lay scattered in all directions. The land in several parts had not been long reclaimed, for there were still the remains of the mangrove stumps. We arrived close to the village of Kameeooos at about eight o'clock at night, and we then had to cross a small inlet of the sea, which we did on a raft of bamboos. When we got to the other side we stopped to refresh ourselves, and lighted our cheroots, whilst Jim Booth and John Bull proceeded to adonize themselves for the dance. They spent about two hours in this before they were ready. The first part which was dressed was the head; for this purpose an old cocoanut was split, and oil was made, with which and a mixture of water the hair was plentifully saturated. They then plunged into the sea having the head and shoulders only out of the water, and after performing this ablution, they proceeded to complete the rest of their toilet, which was a very tedious matter. I was horribly disgusted at being obliged to wait so long, but it could not be helped. The scene, however, was not without interest. The moon was up, and parties were constantly passing the ford, and repairing to the feast. Enormous pigs strung by their legs to long polls, were carried, some by four, often by six athletic men. The feast appeared to me almost invested with Homeric interest from the vastness of the scale on which I saw the preparations proceeding. These pigs were truly most gigantic animals, and their silence, and passive resistance, as the Nicobar prophet would call it, was edifying in the extreme. Messrs John Bull and Jim Booth being at last fully equipped for the dance, we moved on to the village of Kameeooos. When we arrived dancing had not yet commenced. We were taken to the house of the Headman where we rested ourselves after our severe fatigues. Our welcome was not at all cordial, and I could hear a prodigious long argument between Jim Booth and mine host. It was evident our company was considered as *de trop*, and Jim Booth got a sharp snubbing for

having brought us. However we could not be sent back, but the Patriarch and Elders seemed determined to slight us as much as possible, by taking no notice of us, or may be it was the new democratic mode of reception lately introduced with other republican notions into the Nicobars. It was now eleven o'clock and dancing had commenced. The ball was opened by five or six of the tallest men, holding each other by the shoulder and commencing a regular bellow. The effect they produced was truly satanic, for their heads were wreathed round with the pandan leaf, or else with the yellow bark of a tree, of which the extremes, instead of being confined were allowed to escape, so that in the moonlight they have the appearance of being cornuted, and look for all the wor'd like the Devil, agreeably to the imagination of little children. The whole population dances together, men, women and children in the same ring, but the sexes distinct. Sometimes the ring according to the number of houses, is able to complete the circle, but this is not often the case. The ring is very compact, each person grasping his neighbour by the shoulder at arm's length, by whom he is grasped in return; sometimes males and females all sing together, as they always dance together; at other times they sing alternately. The ring moves round slowly from left to right, and the dance consists of two or three stamps, and a smart gliding pressure of the right heel on the ground, not unlike the way in which blacky rubs the palm of his hand on the drum of his tom-tom, indeed when the movement is performed in unison, the sound is agreeable, and the movement rather graceful. In one of the dancing squares I observed an object by which my mind was visibly transported to mine uncle of the three golden balls, a small pyramid some seven feet high was covered all over with forks and spoons and soup ladles, and to me they even appeared ticked. I suppose they were placed there for ornament. The scene altogether was sufficiently animated, young damsels and old, young bloods and middle aged men and little children, all joined in the dance, whilst occasionally a party carrying a huge monster of a pig would cross the path of the dancers, and break for a moment the ring, continuing their headlong course, and passing rapidly into the jungle. Three unfortunate pigs were bound toes up in the dancing circle where I found myself, and really with the effect of the moonlight, the diabolical look of the male dancers, my mind could easily revert to the incantation scenes and sacrifices of the Mexicans. Some of the women were tolerably pretty, and

their mode of dress rather enhanced their charms. On their necks the quantity of silver circlets appeared to be only limited by their means, and their fingers were some of them half covered with silver wire. A fathom of blue cloth was wrapped round their loins but in front it was brought as low as decency permitted. The dancing was continued with unmitigated ardour, refreshments were not wanting, a kind of drinking booth was established by the dancers, and whenever a young miss or an exquisite wanted their negus or their ice, they just left the company for an instant, took their mouthful of toddy, and their whiff of tobacco, and speedily regained their place in the circle. Jim Booth did not as yet mix in the dance; as for John Bull, his dancing days were over, and considering his figure, which was rather unweildy, having a back about twice the length of his legs, I should much doubt if at any time of his career he could have come the polka. But Jem Booth was the regular pet of the Fancy, young ladies would slap him *quam familiariter* on the shoulder, and look at him with glances which told him what a nice young man he was; but there was something in his countenance which betokened that all was not right. His spirit appeared to have deserted him, and I cannot help thinking that he was suffering on our account, although he would not acknowledge it. He evidently had great repute as a doctor, for old ladies afflicted with stomach ache would crowd around him, bringing a cocoanut-shell full of water and beg him for a little doctor's stuff,—at which Jem with an air of most profound wisdom would pull off his hat, take out his bottle of salts, and after taking about enough to have worked a tom-tit slightly, he enclosed the pinch which he had taken between his finger and thumb, sprinkled the contents on the surface of the water, and sent them away with the injunction, I suppose, not to over dose themselves. About 1 A.M. Jim Booth, John Bull, Captain H. and myself adjourned to supper, where we had roast pig and kaladie boiled up on a leaf. When I saw the pork my stomach rebelled, and I contented myself with a plantain or two. We again repaired to the dance, but I was now getting drowsy and we retired for the night. We found some wretched hovels where we ensconsed ourselves. The next morning at 6 A.M. we returned to the dancing, which was kept up with unabated vigour. All the female population had now turned out, and although they were rather fatigued from over-exertion and too much liquor, they still persevered with unflinching courage. The

resort, however, to the toddy stand seemed rather more frequent, but still all appeared to be animated with the most kindly feelings towards one another. In no one instance did I hear an angry word exchanged, and in short, what to an Englishman who has frequented the Crown and Anchor at Greenwich Fair, must appear a most extraordinary fact, the more drunk the more friendly they got. Women instead of squabbling and indulging in remarks such as "Tilly dear, your hair is out of curl," fell to slobbering and kissing one another, and vowing, I suppose, eternal friendship. Neither did I see cruel savage man, just as we were going to have such a nice waltz, order an immediate return home. In only one instance did I see authority made use of, and this was I have no doubt to save the character of the spouse. The fascinating creature, redolent of toddy and tobacco, was dancing with a regular we won't go home till morning vigour, when her husband came up to her and begged her to come home; as the poor creature could scarcely stand on her legs, he finally induced her to leave, but not ten minutes had elapsed before she staggered back to the scene of all her pleasure, and just invigorating herself with a whiff of tobacco and a pull at the toddy bottle, she rejoined the ring, and recommenced dancing with a frantic energy that showed she was the girl for mirth and glee. But as she was rapidly becoming a scandal to her sex, two of her fast friends took her in hand and commenced kissing and weeping toddy over her. They appeared if possible worse than she; however they tried to persuade her she was very drunk, and that they were sober enough to see her to bed. She was, however, invincible; the last time I caught a glimpse of her, she was rearranging her petticoat which was a double one, a coloured one inside and a white one outside, and she could not have managed it, if it had not been for a friend who assisted her.

As I was making my preparations for leaving, and trying to get some one to show us the way back, a middle aged man, his face painted red exactly like Clown in the pantomime, came up to me in an old white hat, and remarkably drunk, and said with a voice as husky as a London waterman's, taking continual sucks the while at the toddy bottle with the assistance of a reed, "how you do, Sir, very glad to see you, Sir,—my name is Pompey the Great—very good name" "And my name, said I, all the same, very good name—" "What your name?" said Pompey. "My name," I said with a bow "is Julius Cæsar, and" taking off my hat to

Captain H. "this gentleman's name is Ptolemy King of Egypt" After this I shook off Pompey, as he smelt abominably of musty todd y, and as we left him I heard him ask me "I say, you no got cutlish (cutlass) no got musket, make sell?" As John Bull did not care for dancing he agreed to escort us back, receiving from the Patriarch and Elders a large piece of raw pork. We arrived at about 10 A. M. at our tents, where we had a good breakfast waiting for us. I was thoroughly starved out of Kameeooos, or I should have been glad to have remained there some time longer.

We subsequently visited Nancowry harbour, where from vessels having been cut off we were much more on our guard. Still I observed on shore, and went about the country a good deal, but always armed. Captain H. did I believe but little trade here, the natives being suspicious and shy. The harbour is a very noble one, and being open to the East and West is accessible in both monsoons. Having seen in Horsburgh that the women on Bompoho were fairer and more beautiful than on the other islands, I determined to go there, and as I landed my heart palpitated as I thought of the beauty I was to encounter, but I never was more deceived in my life. They were, without exception, the ugliest specimens of the sex I had seen. I saw no young damsels, all those whom I met were engaged in the domestic occupation of nursing, and dangling small specimens of humanity of some two feet in length, but their close cropped hair, their mouths filled with tobacco, their huge breasts flapping about like leather bellows, their dirt, filth and uncouthness of dress, filled my mind with disgust, and made me reflect that Captain Horsburgh might be a very excellent hydrographer but no judge of women. I felt heart sick and worse than all sold. In the afternoon, notwithstanding, I had the madness to walk along the beach under a sultry sun, and the consequence was fever of a very bad description. We last of all went to Luxur in the island of Terressa. I liked the people here much, they were eager for trade, but without that disgusting importunity so perceptible in the Car Nicobareans. It was at this village that I met with a man named Gold Mohur, whom I took to amazingly. He had sent his stick on board to notify to us he was coming. This stick, like the knife and tobacco box of the first Governor in New York, was his emblem of authority. He was a jovial little fellow—in the middle of trade, he would fall to singing "We're the lads for mirth and glee" or "Put on your night caps, keep yourselves warm, jolly companne Englishman." This he would repeat ten or a dozen times.

One great favorite of his was "A frog he would a wooing go", distorting it in the most abominable manner. I regretted to part with him, but I am sorry to say he is much addicted to liquor, and is so nervous that he can scarcely lift a glass to his lips.

MALAY PANTUNS.

Tiritep tiram tērgantong,
 Limau manis banya' bijinya.
 Pile pile muda sakampong,
 Itam manis bai' budinya.

Tiritep tiram tērgantong,
 Sambar mēnyambar siana pari.
 Bua hati pēuḡarong jantong,
 Hilang dimana kakanda chari.

Buuḡa mīlor champaka biru,
 Buḡa rampi didalam puān.
 Tujo malam samalam rindu,
 Bilum sampēi pada mu tuan.

Buuḡa rampēi didalam puan,
 Ruku ruku deri Piringīt.
 Bilum sampēi pada mu tuān,
 Rindu saya bukan sidikit.

Ruku ruku deri Piringīt,
 Tras jati bērtalam talam.
 Rindu saya bukan sidikit,
 Nyaris mati samalam malam.

Tras jati bērtalam talam,
 Kapal bēlabo di lautan sisi.
 Nyaris mati samalam malam,
 Bantal dipīlu saya tanḡisi.

Kapal bēlabu dilautan sisi,
 Pata putri naga naganya.
 Bantal dipīlu saya tanḡisi,
 Hīnda' mati rasa rasanya.

THE TORTOISE SHELL OF CELEBES.*

AMONGST the more valuable of the commodities which the enterprising and industrious Bugis annually bring to us from Celebes and other eastern islands, Tortoise-shell holds one of the first places. The quantity imported into Singapore sometimes rises above 13,000 and sometimes sinks below 7,000 pounds, but the average one year with another is about 10,000 pounds. The following account by Mr Vosmaer of its collection by the Or ng Bajo of the south eastern peninsula of Celebes will interest our readers

THE Orang Bajo distinguish four principal kinds of Tortoise, and name them Kulitan, Akung, Boko, and Ratu. The first named is the kind, which, on account of its costly shell, is the most prized. It is the so named Karet tortoise. The shell or back of this creature is covered with 13 shields or blades, which lie regularly on each other in the manner of scales, five on the middle of the back and four on the sides; these are the plates which furnish such costly tortoise-shell to art. The edge of the scale or of the back is further covered with 25 thin pieces joined to each other, which in commerce are known under the appellation of feet or noses of the tortoise. The value of the tortoise-shell depends on the weight and quality of each head, under which expression is understood the collective tortoiseshell belonging to one and the same animal, which is the article of commerce so much in request both for the Chinese and European markets.

Tortoise-shells which have white and black spots that touch each other, and are as much as possible similar on both sides of the blade, are, in the eyes of the Chinese, much finer, and are on that account more greedily monopolized by them, than those which want this peculiarity, and are on the contrary reddish, more damasked than spotted, possess little white, or whose colours, according to their taste, are badly distributed. The caprice of the Chinese makes them sometimes value single heads at unheard of prices, namely such as pass under the name of white heads, which they also distinguish by peculiar names. It is almost impossible to give an accurate description of these kinds, and of their subdivisions, for these depend on many circumstances which remain inappreciable to our eyes. It is therefore enough for me to remark on this subject that such heads, as, possessing the above named qualities,

* Translated (for this Journal) from the *Verhandeligen van het Bata-viaash Genootschap van Kunsten en Wetenschappen* vol. xvii. p. i.

are very white on the blades, and have the outer rim of each blade to the breadth of 2 or 3 fingers wholly white, and the weight of which amounts to $2\frac{1}{2}$ catties (qualities which are seldom found united) may be valued at one thousand guilders and upwards. The feet of the tortoiseshell are only destined for the Chinese market; whenever the two hinder pieces are sound and have the weight of $\frac{1}{2}$ catty or thereabouts, which is very seldom the case, they may reach the value of fifty guilders and more. The whole shell of a tortoise seldom weighs more than 3 catties, notwithstanding it is asserted that there sometimes occur heads of 4 and 5 catties. Tortoiseshells are also sometimes found, of which the shell, instead of 13 blades, consists of a single undivided blade; the Orang Bajos call this kind, which very seldom occurs, *Lojong*.

The Akung also furnishes tortoiseshell (*karet*), but the shell being thin, and of a poor quality, much less value is attached to it.

The Boko is the same as that which is called Panju by the Malays. It is the common sea-tortoise which is of no other use than to be eaten. To these sorts the Panjubui ought to be added, being the common tortoise with a thick shell, like that of the proper tortoise, but of poor quality and therefore of trifling value; so also the Akung Boko which is distinguished from the common Boko by its much larger head.

The Ratú, lastly, furnishes a sort, which is distinguished by its peculiarly great size, the Orang Bajos asserting that it is usually twice as big as the largest tortoise-shell tortoise, and therefore 5 to 6 feet long, and even more.

The usual modes by which the Orang Bajos catch the tortoise, are principally by the *hadung*, the harpoon and the net; to these we add the simplest of all, namely, falling upon the females when they resort to the strand to lay their eggs. This is also the most usual, I may almost say the only way, by which the inhabitants of the coast catch this animal. They need nothing more, than, as soon as they have got the creature in their power, to turn it on its back, when, unable to turn itself again, it remains lying helpless in their power. It sometimes also falls into the hands of the dwellers on the coast through means of their fishing stakes, into which it enters like the fish, and from which it can find no outlet but remains imprisoned in the innermost chamber.

Whenever the Orang Bajos have caught a tortoise, they kill it immediately, by bestowing some blows upon the head. They then take its upper shield or the back itself quite off, being the only thing about the animal which has value. The tortoiseshell adhering so fast to the shield that, if they at once pulled

it off, there would be danger of tearing the shells, they usually wait three days, during which time the soft parts become decomposed and the shells are loosened with little trouble. When they wish to remove the shell immediately after the capture, they separate it by means of boiling water. They also often accomplish this object by the heat of a fire, in the application of which, however, a danger is run of injuring the shell by burning it, for which reason this mode is only adopted by those who do not know its value.

MALAY PANTUNS.

Patá putrí nagá nagánya,
Sintákan láyer ká Indrágíri.
Hindá máti rásá rásanya,
Ayér dítilam sarása durí.

Sintakan láyer ká Indrágíri,
Ikán todáh dálám práu.
Ayer dítilan sarása durí,
'Tidor ta' hindá' mákán tá máu.

Ikán todáh dálám práu,
Aná sabandar memánku puán.
'Tidor ta' hindá mákán ta' máu,
Badán tersira pádámu tuán.

Bràpá jáu táná Plémbáng,
Burong tirbáng puláng hári.
Derí jáu sáyá dátáng,
Dingarkan tuán báí budí.

Jekáláu ádá lágudi páít,
Blángá bháru sáyá jirángkan.
Jekáláu ádá budí íang báí,
Menjádi ábu sáyá kinangkan.

Jekáláu tiádá kirná bintáng,
Másákán bulán tirbít págí.
Jekáláu tiádá kirná tuán,
Másákán dátáng sáyá kamari

Bulán tráng tráng tamaráng,
Hántu berjálán lákí bíní.
Jángánla sáyá dí áram áram,
Sáyá dágáng terchámpá dísiní.

THE MANNERS AND CUSTOMS OF THE MALAYS *

DRESS.

IN describing the manners and habits of the Malays, occasion so frequently arises to mention articles of dress, ornament and food, that it is necessary to give an account of these in the first place. That necessary minuteness and accuracy of description, which the changing fashions of some countries renders unattainable as applied to these subjects without giving volumes to them, may here be satisfied with one or two chapters. In giving a faithful account of the social and domestic rather than the national manners of the Malay of the present day, we exhibit him as he has lived for centuries, as he figures in his native poems and romances, and as he appeared to the eyes of the first European navigators who entered the Eastern Archipelago.

The principal portions of attire are worn by all ranks and in all parts of the Archipelago, nor is their use confined to the Malays, but is shared by the Bugis, Javanese and most of the inferior races. The principal and most characteristic, perhaps the original, article of dress is the *sarong*, which is common to both sexes. It is probably the simplest, most effective and least troublesome garment possessed by any nation. It is formed of a piece of cloth generally woven of the proper size, or about four yards long and two feet and a half broad. This is cut in two and the sides sewed together so as to form a cloth half as long and twice as broad as before.

* We refrained from proceeding with the publication of our translation of the *Shair Bidasari* (see Vol. I.) when we found that our notes explanatory of words and customs would be so numerous as to form a bulky running glossary by which the attention of our readers would be distracted from the poem. There exist neither dictionaries nor descriptive works to which we could have referred as safe and full authorities, and it therefore appeared to us that the simplest course for ourselves, and the most satisfactory for our readers, would be to postpone our promised series of Malayan works, until we had in some measure supplied this deficiency, by giving an account of the manners and customs of the Malays, in which native terms would be as much as possible introduced. We made arrangements for illustrating this by lithographs, but afterwards found ourselves obliged to abandon lithographs altogether until we could get them executed at a less expence. As it does not appear probable that we shall soon succeed in this, or be enabled to meet the cost at which they can be supplied at present, we will not longer defer our elucidations of Malayan manners, although we are quite sensible that we cannot succeed in conveying a true picture of this people without the aid of the pencil. The Malayan nations are so numerous that it is necessary to adopt some standard in all works of this kind, and after much consideration we have resolved to assume the Malays of Malacca as our type of the language and manners of the race. Our main object is to prepare the way for an examination of Malay literature, which received

The ends are then sewed together and the sarong is formed.† It may be said to be the gown in its simplest form, that is of the same width throughout and divested of all the additions from the waist upwards. From being nearly as long as the person, it forms in itself a complete envelope, as its name indicates, and is with the women, and often with the men, the only article of dress worn in the house and kampong on ordinary occasions. It forms also the sole sleeping dress of both sexes. In early morning the men may be seen standing in the serambi half torpid from the cold, with the arms folded in the sarong, which hangs down to the feet, leaving nothing visible but the head and neck which are drawn down upon it. In the middle of the day, and generally when not in *deshabille*, it is worn fastened at the waist, the operation of a moment. In adjusting it, it is extended by the hand in front and to the left till it embraces the person closely behind. It is then made to meet at the left haunch, so as to enfold the body tightly and the top of the remaining or loose half is gathered together into a knot in front, over which the border of the part next the person is drawn so as to confine it firmly. The lower end hangs to about the middle of the calf. The women fasten it in a different manner. When in *deshabille*, they generally wear it puckered and fastened immediately below the armpits, and reaching to the ankle. At night it is worn either loose or wrapped round the whole person including the head, according as the weather is close or chilly. Such are the modes in which the sarong is worn in and about the house. We must pass to the other articles of dress before we can explain how it is worn abroad, or when visitors are received.

The next portion of the men's dress is the *slûar* or *sluar*, which is a kind of trousers or drawers, wide at the top, where it is fastened round the waist by a running string or *tali*

its greatest cultivation and development in the Malay kingdom of Malacca. It was during the predominance of this state also that Malay manners were most highly cultivated. If the condition in which the Malays of Malacca have existed since 1511 in some respects separates them at this day from those branches of the race which have remained independent, the latter have also in general lost some of those strongly marked national traits, which cannot flourish under the shade of European predominance. For the same reason their culture has probably retrograded in most countries. The Malays we describe are not the Malays of Sumatra, but of the Peninsula, and we think Malacca is entitled to be regarded as the standard in language, pronunciation and manners. We shall not however, confine our view exclusively to the Malacca Malay of the present day, but glance occasionally at past times and other places:

† This is the *kain bekampo*. Sometimes it is woven of the full breadth 4 or 4½ feet.

sluar, and closer at the legs, where it extends to about a handsbreadth below the knees. It is invariably worn abroad and frequently at home. It is made of a thicker and stronger cloth than the sarong. There are several kinds of the common *sluar*, such as the *sluar Ache* or Achenese *sluar*, *siluar Arab*, &c. The Chinese wide and loose trowsers, *sluar China*, when of silk *sluar lochuän*, are sometimes worn. A less common *sluar* is one which reaches to the ankle, *sluar gadoh*, much worn by the Malays of Singapore or *Orang Silat*,* and another, the *sluar pende'*, which terminates about the middle of the thigh, and is little used save by the Bugis, most of whom wear it exclusively.

The *baju* is a jacket of which there are several varieties. The *baju sikat*, which is the most common, reaches to the waist, is loose, open and without buttons in front, has sleeves terminating a hands breadth above the wrist, and a *nia* or collar, two to three inches in height. The *baju chari Linga* has sleeves fitting closely to the arm, reaching to the wrist and with a loose slit cuff reaching to the knuckles. The *baju pesa sabla'* or *baju tutop iman* is similar to the last, but has an additional piece on the right, which buttons over the left side by five or six buttons of cloth, stone or gold, according to the means and taste of the wearer. It is always buttoned close. The *baju tangan kanching* is a long gown reaching to the ankle, open in front and with buttons at the cuff as the name implies. It is only worn by old men when they attend the mosque or on occasions of ceremony. The *baju bastrob* is a vest or shirt worn beneath the proper *baju*, fastened in front by a row of buttons of gold, jewels &c. and without collar or sleeves. The use of this vest is chiefly confined to persons of wealth and station. The *baju ayit kurang* is in the form of a shift, that is without any opening in front save a small slit at the throat to admit of the head passing through, and which is fastened with a button. It has sleeves but no collar. The *baju kurong bila tiga* has three indentations in the collar. The *kurong chikah mungsang* has a stiff collar with buttons. It is much worn in *Kedah*, but in Singapore by a few of the principal Malays only. The *baju ta bêtangän* or *baju poco* resembles the *baju ayit* save in being sleeveless, and having a band within the slit at the breast where it is fastened, thus allowing the sides of the slit to remain open. When the sleeve terminates at the elbow

* It is wide at the feet. The proper long trowsers, *sluar panjang*, narrow at the feet, are much used by the *orang Sia'* or Malays of *Sia'* in Sumatra. They are sometimes buttoned at the feet.

it is called *baju muniyit*. In both, a triangular piece projects over the shoulder. The *baju baskāt* has a wide additional piece of cloth on each side; one of these lappets is fastened by a row of strings within the other below the arm pit on the right side, and the other fastened in a similar manner over the preceding on the left side below the arm pit. It has a collar about two fingers breadth broad. This baju is much worn by the Malays of Malacca, who appear to have adopted it from the Klings, as in other Malay countries it is not generally used. It is sometimes made without sleeves, when it is called *baskāt ta bêtangăn*. The *baju sadaria* is a loose jacket with a small collar, a row of numerous small buttons or knots of thread, wide sleeves with cuffs reaching to the knuckles, braided at all the edges, and embroidered, sometimes with silk or gold thread, on the breast and cuffs. This baju is also sometimes made sleeveless. The *baju pindip n* or *bêrsinjab* is the name given to any of the open bajus when the borders are lined with silk.

The baju sadaria has a pocket, which the other bajus properly want, but the Malacca Malays have pockets in all their jackets save the kurong. A peculiar kind of pouch or purse, *sĩmbĩt*, about a foot long and two inches broad with a slit in the middle, is much used, chiefly for conveying money and gold, by the Malays of Muar and Padang and by the Sumatran people in the Peninsula, but occasionally also by other Malays. It has a loop at one end, and a string ending in a button at the other, by which it is fastened round the waist.

The sluar, sarong and baju are the essential parts of the Malayan costume and common to all. When the sluar is worn, the sarong is generally shortened, so as to expose the ends of the sluar. At other times one side is tucked up and thrown over the right or left shoulder, leaving the other hanging on the opposite side to the knee,* or it is folded on the breast and left hanging down the back, in the fashion of a plaid or shawl.† Panghulus and other men of some station, assert their claims to respect by wearing it in a peculiar manner, that is gathered in folds at each side which are made to project, *kain kambang*, when at one side only, *mănchong serong*. In the *omba beralun*, which is a female fashion, the folds are made to stand out still more and in front, so as in walking to assume the billowy motion which the name indicates. When it is desired to have the arms and legs

* *Sie pang*.

† *Samperkan*.

entirely disengaged, as on a journey, the sarong is gathered up and folded round the waist. It also enables the Malay to bathe so as to perform his ablutions effectually without any exposure of the person. A dry sarong is then thrown over the wet one which is dexterously slipped off without coming in contact with the other. The sarong is thus the most convenient and convertible of all garments, forming, as occasion may require, dressing, bathing, or sleeping gown, kilt, plaid, shawl, girdle, and, as will appear, headdress.

A general but not an essential article of dress is the *bang-kong*, a waist cloth or sash of cotton or silk, from 9 to 14 feet long, which is folded round the waist, the ends being concealed.

The head dress is a *justar* or kerchief about two feet to four feet broad, which is folded as a small turban. In front above the brow it is folded neatly so as to have the appearance of a fillet, the ends crossing and being adjusted and fastened behind. One end is commonly left loose and lying over the crown of the head. In the palmy days of Malacca and Johore the same attention was probably given to the manner of wearing the kerchief which it still receives at some existing Malay courts, such as that of Sia'. Few Malays in Malacca and Singapore are now acquainted with these fashions, and it would perhaps be difficult to find Malays, not immediate followers of the families of the Sultan and Tāmāṅgong, who could explain their names. The panglima's mode is called *bila mumbang juntēi krah*, and is generally used by the Tāmāṅgong. Two corners are freed from the folds; one is brought forward and concealed between the fillet and the brow, and the other is made to project like a horn or tuft. When both horns are concealed it is called *klongsong buṅga* which is Tuanku Alli's favorite mode. The *gulong gua* has a single corner introduced between the fold and the forehead, and pulled down an inch or two over the brow. The *gitong pideh* has the loose end neatly arranged so as to cover the head like a rumpled cloth cap. The *lang minyongsong aṅḡin* has two projecting tufts and one of the ends hanging down behind towards one shoulder. The *dayang pul ng pangil* is the gitong pideh reversed so that the fillet is behind. All these modes require the kerchief to be starched, or rather stiffened with kanji, to give them full effect. The skull cap, *kopia* or *songka*, is worn by some. The thick and stiff varieties are *kopia Arab* or *afia* of silk, *k. Surati* of cotton. *k. Batawi* of gold thread, *k. Bilabas* with alternate stripes of different colours,

k. sudu sudu with a raised border behind, and *k. rotan* made entirely of rattan. The thin kinds are the *k. blanga* similar in shape to the preceding, and the *k. kape kipe* which covers the whole head leaving only the face exposed. The *k. Bugis* is thicker than these but soft, being made either of the pith of the *rīsām* plant, or of *taṅgsi* from China. Both are dyed black, and the latter has a border of silver foil. The turban (*sirbān*, *tirbān*) is only worn by hajis and old persons.

The *saputaṅgan siri* or siri handkerchief is held in the hand and sometimes thrown over the shoulder. In one corner, a *simpolān* or *gīdib. ng siri* or piece of cloth is tied which contains a *tepa siri* a small box holding siri, a small receptacle for tobacco generally made of pandan leaf, and the *tampat kapōrān* or *pēkaporan* a small brass cup, but often merely a leaf, containing moist lime. The *sibe* which is longer than the *saputaṅgan*, is worn on the shoulder by hajis, and occasionally by others.

A kind of very small handkerchief or yellow cloth used by the attendants of kings is called *kain wali*, and a long one *tā. tampān*. The *salampai* is a yellow handkerchief, sometimes ornamented with gold, which the great officers of state wear thrown over the shoulder, at royal feasts, burials &c.

The *chapal* or *kaus* are sandals used by the wealthier and more respectable men but unknown to the poorer. The *chēinilla* are an antique kind of slipper only worn by a few on days ceremony.

With the exception to be mentioned, the only distinction between the dress of the higher and wealthier and the lower classes, consists in the difference of quality in the materials. The form of the different articles is the same for all, and has remained so from time immemorial. A Malay who now varied the form of any article, would be encountered by universal astonishment and ridicule.

The materials of dress vary according to the means and taste of the wearer, and there is no prejudice against the use of any kind of cloth whatever. The favorite sarong is the Bugis, which is stronger, finer and more expensive than the manufactures of other countries. It is always striped and according to different patterns, in both respects resembling the Scotch tartan. It is not dyed but woven of threads of different colours. The darker are preferred, and the most tastefully coloured is considered to be a mixture of a fine black and white, which is the most rare and expensive of all, from the difficulty of procuring a fine black colour. A sarong in which red predominates is the favorite dress of the great mass.

The *sarong pälekat* is the finest and thinnest of all the sarong cloths, and its colours are also the most beautiful. Its use is principally confined to women. The ordinary material is cotton, but silk sarongs are common, although they are only worn on full dress days. They are very seldom worn by men. The most choice and expensive are made of cloth either wrought entirely of gold thread (*songket*), or having it woven in stripes, flowers &c (*bëtabor*) all over, or merely at one end (*bëkapala*). Cotton cloth sarongs are sometimes adorned with flowers of gold leaf applied to them with gum (*bëpiradamas* or *tüipo*). Sarongs manufactured in Europe are now extensively used from their cheapness, although they are very inferior in strength and beauty to those made in the Archipelago. The *baju* is commonly of white cotton cloth of various degrees of quality and texture. But coloured chintzes, black cloth &c are in much use. Those who can afford it wear *bajus* of woolen cloth, velvet and other fine materials on great days; and many of the young nobility whenever they appear in public; their *bajus* are also frequently embroidered with gold thread or made of cloth of gold. Those worn by brides and bridegrooms, and on festive days by children, are sometimes ornamented with flowers made of solid gold, which, are sewed on (*baju bërpäkänkän mas* or *berbunga mas*).

In Malayan countries the use of certain kinds of cloth, either universally or within certain limits, is confined to the royal family, and prohibited, under severe penalties, to all others. The crime of wearing yellow cloth, unless with the express license of the Raja, is punishable with death. Within the precincts of the court it is unlawful to wear cloth of a fine texture, such as muslin, without a similar license, and the breach of the law subjects the wearer to a fine, or to have the cloth torn from his person and be driven out ignominiously.*

• ترسایم درفد اندخ ۲ فصل یغفرتم فد میانی عادت
سگل فاکین دان اورخ بسر ۲ دان لراش راج اکن دفاکی اوله
سگل راعیت ایت ادافون تیاد هاروس دفاکی ایت کلکوان فد
اورخ بسر ۲ جکلو دفاکی اوله لاین تیاد نام انکره ایت دبونه
حکمن دمکین لاک تیاد دافمت ممایی خاص دان هلمون تنکل
مغادف ایت اتوفاگر راج ایت ملیکنک دشن انکره نسپایم
تلنجج اورخ جکک یایوه عیدی دجارتکن حکمن ادافون دمکین
لاک ممایی اوله کوس سشرت مشروب دان باوج سقوکل ایکت فون
تیاد دافمت دفاکین لارخ لاین ملیکنک دشن نام انکره ایت جیکلو

The Malay historian of Malacca relates that after Sultan Ma-hāmād had embraced Islamism, he established many rules for maintaining the dignity of the Malacca court, and defining its ceremonies and usages. It was he who first made ordinances respecting yellow things (*kakuningan*) prohibited. The people were not allowed to wear them, not even a handkerchief, nor were they allowed to make of this colour fringes to the hangings of a room, or large pillow cases, or mattresses, or any envelope, or any kind of manufactured article, or house ornaments, or any thing else whatever, save sarongs, *bajus* and *dustars* †

DRESS OF WOMEN.

The women, in addition to the sarong, wear a *baju* similar to the *baju ayit* but reaching lower. This is much used by the Malays of Singapore. In Malacca the *baju korong* is worn. It reaches to a little above the ankle. Its cuffs are fastened with buttons of gold and sometimes of diamonds. It is of black cotton cloth, but when in full dress this is exchanged for a silk one of which the colour varies. The *baju jipun* is generally made of chintz and is open in front. It is fastened over the breast by two and occasionally three brooches, *krosang*, in the form and material of which the wearers shew their wealth and taste. They are generally of gold, one being round, with flowers embossed (*bunga tauto*) on the surface or cut in (*bunga pahat*) the other, *krosang ati ati*, shaped like the leaf of the *ati ati* plant, and also adorned with flowers. In-

دفاکي اورځ نسچاي تياک مځعت اکندي مگ حکمن درمفس
ملينگن يځ دانت ممبري افق اڼوچچون اوله گرس ايت بذاهارا
جورک ملينگن مموهنگن کباوا دولي راج جورک ملک هارس اي
مماکي اکن افق چچوايت دمکين سکل دباو اورځ راج ۲ هارس
مځتهويځ شادت راج ايت

† مگ سلطان محمد فون مځتر تحت کراجون بکند شهدان
پکنداله يځفرتما ۲ ملتقن ککونين لراغن تياک دانت دفاکي اورځ
کاواران دان دامبل اکن سځوتاغځ دان تياک دانت ذبوات تفې
تابير دان لولس بنقل بسر دان تيلم دان بځکيس بارځ اف ۲ دان
اکن کاځ کاراغځ بند دان تياک دانت دامبل اکن فرهيلس رومه
دان لاین درند ايتوفون تياک جورک دانت ملينگن کايں باجو دان
دسترتيلک فرکارا ايت جوا يقدانت دفاکي

stead of the surface being wrought into flowers, it is sometimes studded with small diamonds. Breast pins are of rare, and as the name (*päspiu*) indicates of very modern, use. The undervest, or bodice not quilted, *choli*, *joli*, is an Indian article of dress very rarely used by Malay women.

Pockets are not used by women, but some have, on the left side of the waist, an imitation on a small scale of the *ompau* universally worn by Bugis men, and which is similar to the sporran of the Scottish highlander.

The head dress, or *salendang*, is a piece of coloured cloth, about nine feet long and three feet broad, folded on itself and thrown over the head and shoulders, two corners being drawn in front on one side to the shoulder and there held by the hand on that side, so as, when pulled tight over the face, to conceal it entirely, while the other hand is interposed on the other side between the face and the cloth, and constantly employed in keeping it open, to the extent which the lady considers proper. The young, when walking in a public place, leave only a sufficient opening for the eyes; the old are less scrupulous, and leave the greater part of the face exposed. A sarong is very often substituted for the *salendang*.

Ladies shoes are unknown to proper Malayan habits, but in many places the *kasut kodo* or slipper, often embroidered, is worn.

The ornaments of the female dress, in addition to the brooches already mentioned, are the *chucho* or *pacha sanggol*, or hair pins of gold, by which the hair is fastened when folded on the head in the shape of a shell, as it generally is. The head is usually globe, leaf, or flower shaped, but there sometimes rise from it a number of spiral stalks of gold wire supporting flowers and leaves which tremble on the slightest motion of the head, whence this ornament is called *chucho sanggol bēgintār*. Jewels are often set in the centres of the flowers. The folds of the hair are also sometimes studded with golden nails, *paku paku* or *paku sanggol*, the heads, which alone are visible, being neatly figured and the body being generally of silver. In Naning the hair pin has a large head and is called *c. kundäi*. The glossy black hair of the Malayan girl is sometimes further adorned by the *buṅga suntung*, a thin zone of gold, two to three inches in length, supporting a row of flowers similar to those of the *chucho sanggol bēgintār*.

The *tali pinding* is a band or cincture, by which the sarong is fastened round the waist. It is about two inches thick, made of cloth, silver, or gold, and fastened in front with the *pinding*,

sometimes, when of metal, made in links, and sometimes in one piece very fine and flexible

The *krabu* are small earrings of gold sometimes with a diamond set in them. A larger kind are called *subang*; when the *krabu* has several diamonds or other stones of one, *kunang kunang sākabun*. Before marriage and the birth of the first child, *anting anting* or pendants of gold, called *tauge* when loop shaped and *chinchin* when ring shaped, are suspended from the *krabu*. Solid pendants, *orlet*, sometimes of diamonds, are worn by those who can afford them on great occasions, such as marriages.

Four rings of gold are generally worn on the left hand, two on the little finger and two on the next. These rings have sometimes diamonds. Bracelets, *gīlang taṅgan* or *pī-tam*, of gold are frequently but not generally worn, and armlets, *ponto*, are seldom seen save on the persons of brides. A handkerchief held in the hand completes the costume of the fair sex.

At the toilet, combs, generally of Chinese manufacture and cocoanut oil, are the only articles used. Cosmetics are very rarely resorted to, save in the families of royal and noble persons, and although the men occasionally use rose water, rose oil, chindana oil, majmo oil, &c. the women never do so. Flowers, such as the rose, milor, champaka, and *kanaṅga*, are occasionally but very rarely worn in the hair. Their use is generally considered to denote an unbecoming manifestation of vanity or desire to attract attention.

DRESS OF CHILDREN;

The dress of children is similar to that of their elders. Until the age of about five years they wear the *barut*.* Until this age the children of the poor in country parts often run about naked, the females having a small heart shaped plate of silver or gold, called *chaping*, fastened by a string where the sculpector, from a similar motive, sometimes places a leaf. Little silver globules with grains inside, *karonchong*, are sometimes fastened by a string round the ankles, and make a tinkling sound when the children are in motion. They are disused at the age of two or three years.

On holidays and days of ceremony the children are gaily dressed. The boys wear little scull caps ornamented with golden flowers, and the girls the *kovia bĕrĕkor* which hangs down behind the *kolur* which is similar to the *kopia*. From their necks are suspended by silken or velvet strings or

* A large bandage,

ribbons, gold buttons, *doko* or broad pieces of gold with ornaments, those of the girls being crescent shaped, and those of the boys with an irregular curved margin, *tangkal*, or amulets, small pieces of gold, square shaped for boys and crescent shaped for girls. The *gimpeř* are small round pieces of gold suspended by gold chains. Bracelets are worn, thin and flat for the girls and round for the boys. The *kuku harimau* (tigers claws) is a small piece of gold into which the points of two tigers claws are fixed, the ends being shod with gold. The *mane* are gold beads worn at the wrist. Earrings and pendants, and bangles or anklets, *gilang kaki*, of silver adorn the girls.

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TOUR FROM SOURABAYA, THROUGH KEDIRI, BLITAR, AN-
TANG, MALANG AND PASSURUAN, BACK TO SOURABAYA*

By JONATHAN RIGG, Esq., *Member of the Batavian Society of Arts
and Sciences.*

SRINGAT is a long straggling village; hovels and patches of cultivation alternating for a paul or two along the road. Towards the north east end is a ridge of hills, about a paul long and a couple of hundred feet high, covered with trees, and which is a solitary elevation rising on the extensive plain. After passing Sringat you enter the coffee gardens, which continue nearly all the way to Blitar, excluding every other view from the traveller, the luxuriant dadap trees which are planted for their shade, forming quite a forest on either hand. This monotony is broken at the 115 paul by the post station of Jati Lënger, which is the first place where we observed the teak tree since leaving Kediri. A few small stunted ones are growing wild here and evidently in a state of nature, their larger congeners having been cut down for useful purposes. The coffee gardens are again soon entered, and are found every where very clean, and in a healthy, thriving condition. The crop of the year had long been gathered, but here and there were people collecting the last ripened berries. Before noon we reached our destination and alighted at *Kapanjén*, the hospitable abode of Mr Laup. Blitar, 120½ pauls from Sourabaya, is of itself a place of no interest, not being

* Continued from page 202.

even a large native village, though the chief place of the district. A few Chinamen are found, connected either with the Government farm, or doing a little peddling trade. The Kapanjén, (or residence of the Panji,) is so called, as a chief of this rank used to be stationed here in the days of native rule. The present controlleur living on the same ground, it still retains its former name. It is at one side of a kind of alun alun, on which plain is also the house of the Widono, and Government coffee store. Blitar, as before observed, is managed under a system of forbearance in the hope of encouraging the increase of population. The people pay no land rents so that the produce of their own paddy fields and other private cultivation is untaxed, but in lieu of this they have to plant coffee for the Government for which they receive only $f6\frac{1}{2}$ copper per picul, whilst in other districts $f,10$ is paid, and a few years ago $f12$ copper. Mr Laup, who has charge of the district, has been here since 1832 and appears well acquainted with his subjects. His fitness for this situation has obtained for him the distinction of controlleur of the third class, though not one of the regular covenant servants. He is approaching fast the age of 60 though yet active and vivacious. Blitar belonged formerly to the Court of Solo and was a fief of the old Adipati prime minister. In days of old, one of the sons of the reigning prince was generally called Pangeran Blitar. The district now contains about 2,000 working men and in 1846 they gathered in 6,000 piculs of coffee, but part of this population is employed dragging timber to a saw mill, as will be mentioned hereafter.

Anxious to see all that was worth visiting and having no time to lose, soon after breakfast Mr Laup procured horses for our carriage, and accompanied us to visit the ruined temple of Panataran. There is a very passable carriage road all the way, which terminates at a small river close to the temple. The distance is 7 pauls, and a gradual ascent is made towards the foot of the Klut, in a north easterly direction from Blitar. The first paul of the way you pass through coffee gardens; these however, rarely extend above a few hundred feet on either side, and are meant to keep the road clear and deprive the numerous tigers of too easy an ambush. The greater part of the way however is forest, with hardly a hut to be seen, though the soil is black and rich.

Alighting at the rivulet and ascending the opposite brow, you turn a corner and have the ruins of Panataran before you, surrounded by primitive forest. The principal building is the most easterly of the group of ruins. The general figure

of the base is a square nearly 50 feet each way, of which the outline is diversified with projecting balconies or retiring recesses. The building is solid and contains no interior apartment, yet may be considered as consisting of three stories, viz., the basement, and 1st and 2nd or uppermost story. The construction is such that the first story is less in dimensions than the basement, in as much as there is a gallery or way all round the upper entablature of the basement, by which you can make the circuit of No. 1. So also No. 2 or the uppermost compartment is less than No. 1, by the breadth of a similar surrounding gallery, as is the case with No. 1. The design is analogous to that of Boro Budur, only there the edifice is reared around a hill as a nucelus, whereas here, on an incomparably smaller scale, the whole is a mass of built up materials resting on the level ground. The height of the basement is about 8 feet from the ground, on this No. 1 rises about 7 feet, and No. 2 again as much on that, making the total height of the temple about 22 feet. The front part of the temple faces west 30° north and has its back turned to the Klut mountain. The front part of the basement projects more than any other part of the building and forms a roomy balcony in front of Nos. 1 and 2. To this balcony access is gained by two flights of narrow steps from the front, one near each angle of the building, so that turning right or left you stand before No. 1. The ascent to this is from opposite the centre of the balcony and thus up the middle of the edifice. A flight of 10 steps accomplishes this, and 10 more lead on, in the same straight line, to the summit of the building. The whole exterior of the edifice is composed of neatly hewn trachyte stone fitting close together without the intervention of mortar, and covered with a profusion of well executed sculpture, indicative of both the taste, the skill and the patience of the workmen. The ingenuity of the workman has been taxed not only in planning and executing the general contour of the edifice, with its balconies, entablatures, cornices and other architectural embellishments, but in ornamenting the same with a variety of apparently historical designs. Having noted on the spot the subjects of these representations, I will endeavour to convey some idea of them. Variety has been studied, and is distinctly manifest in the representations exhibited on the walls of the three stories.

Round about the lower or basement story, the wall is parcelled out alternately into square tablets and oval medallions. On the tablets are represented human beings mostly engaged in warlike operations, and in a posture of defence

or defiance. The weapons seen are bows, arrows, spears, swords, shields and clubs. The kris appears also in use, and is very clearly distinguished in the case of a man stabbing a prostrate foe; it is of the straight or unwavy kind and is repeated on other occasions. Sometimes Hanumans, or Rama's monkeys, occupy the place of human beings; they also are in various warlike attitudes, and armed with the above named weapons. Each medallion has leaf or branch work near the centre, and on either side is some animal or bird, the male and female of the species. These are executed with considerable spirit and taste, and form quite a gallery of natural history. The medallions are about a foot in diameter, and I noted that they exhibited the common cock and hen, peacocks, ducks, geese, parrots in variety, storks, the rhinoceros or toocan birds, owls, dogs, squirrels, armadillos, rats, mongooses, goats, tigers, deer, the bull with the hump and cow, the banteng or wild cow without hump, buffaloes, hogs, horses, elephants, rhinoceroses, serpents or nagas, porcupines, some small animal with large flabby ears and large round eyes, which I did not know, and several others. These are viewed from the ground. The greatest labour and care however, have been bestowed upon the sculpture which covers the walls of the first story No. 1—and is seen from the gallery or passage which runs all round the top of the basement. The subject is evidently historical and two young distinguished personages, probably a king and his queen, appear to be the chief characters of this scene. The execution of the sculpture is perhaps somewhat inferior to that of Boro Budur, and the figures of human beings are stiffer, but the horse is better represented here. The perspective in both is rude. I will endeavour to give a slight sketch of the representations as I saw them, proceeding round the edifice from the steps in front, the south, east and north sides, back again to the same steps. Honor and reverence are frequently done to the above mentioned personages, who are usually attended by two female figures, one carrying the siri or betel box, the other the spittoon, in either case held upon the shoulder. The siri box is of royal capacity, and from its size and shape apparently meant to be of wood; the spittoon is of corresponding capacity, and such as the utensils of brass still in use. The two personages are often seen riding in a carriage or car of a peculiar description, drawn by four horses yoked abreast, driven by the king who sits close at their tails, having his queen behind him, squatting on an elevated platform. The carriage rests on one pair of wheels, which are made like modern ones, with naves,

spokes and rim. The body of the chariot is very light and consists of a frame, with the principal seat, without any covering, over the axle; a lower seat is in front, for the driver, whose feet rest upon the insertion of the single pole, to which the horses are yoked. The prince and his princess are dressed much alike, only the man is distinguished by a graceful line of mustachio on his upper lip. They have ornamented head-dresses, whilst their attendants have the hair uncovered, combed smoothly back and sometimes tied in a knot behind; no handkerchief is ever seen. There is a battle in one place where a fallen hero is being run through the throat by a spear. The bow and arrow is frequent, as also the spear and shields on the arm. Hard by is a warrior, wearing a tiara of Peruvian feathers, who has just pitched with his head to the ground in front of the wheel of the carriage, from which he is falling, and which he has been driving. The agony of the features is well depicted; his wife, on the chief seat, is tumbling backwards from the chariot, whilst the horses, having become ungovernable, are rearing and disentangling themselves from the yoke. The party appear to have been shot by the queen who is standing erect on another chariot a little in advance, and who has just discharged an arrow from the bow, which she still holds in the attitude of discharging. Men are on horse-back, seated on saddles with high peaks like those of our cavalry, the saddles have large flaps and are fixed on by bandages passing round the neck and under the tail. The tiaras of plumes, resembling the Peruvian head dress, are frequent on the south side of the building, but all is peace here; horses are being led to yoke to a carriage, which is being pulled out from under a portal. Here are two high personages with a *trisula* or trident between them; an attendant is kneeling behind. Further on towards the east, there are many female figures wearing a kind of sarong, with the bare hair neatly combed back, apparently meant for royal attendants; they would answer for Javanese, even in features, except the nose which is sharper than what they usually possess. Near this is a holy man, with a flowing beard, receiving some present from a princess, who is squatting on a couch or *bali-bali*, attended by two maid servants, kneeling at the side of the couch. The holy man stands upright and is followed by another similarly bearded, behind whom is a male attendant with bald or shaven head. There is represented the Lontar palm bearing fruit, and some other trees, amongst which apparently the mangga, also the coconut, with bunches of pendant fruit. Again a payong or state

umbrella, put up in a cloth bag is held behind a great man, whom a figure is supplicating with folded hands. On a *bali-bali* is seated an aged sage entreated by three figures with hands folded or crossed on the breast. These three have the hair done up in a style differing from any others on the building; it is in filets or bands crossing each other at right angles, and looks somewhat like turbans; their dress is otherwise a kind of sarong with the breast bare. Again horses are being led to be yoked to an empty chariot, the time of day being indicated by the sun rising from behind a clump of trees, and a little further on are the prince and his consort *en route* on the vehicle. Proceeding along, figures are seen with sharp features like Hindus, the hair combed back and tied in a knot behind, the noses are sharp and prominent with mustachios on the upper lip; the body above the waist is bare. Here the holy man with his bald headed attendant again occurs addressing the queen. Some sort of an execution is taking place on the north side of the building. A personage, on horse back, with attendants, is supplicated by a kneeling figure with two women standing behind, next comes a man with a spear conducting two other women in apparent distress, followed by a man with a *wadung* or broad chopper stuck in a case which he holds in his left hand, and beyond this is a figure in the act of stabbing the bearer of the siri box, with either a kris or a spear head. Returning to the west face, next the steps, is a venerable sage, represented as before with flowing broad, reviling a monster-man with fang teeth, burning, and perishing with anguish in flames of fire which are raging around him, and into which he appears to have been cast. Beyond there are monsters assailing a hoary bearded figure apparent asleep on a couch. The elephant occurs in two places, in one without a load and next a horse that is ridden, elsewhere bearing itself a person on its back. We have now completed the circuit of the first story, the sculpture on which evidently represents a series of historical occurrences, but to what particular events they relate it appears quite impossible to say. They may perhaps belong to the times in which the temple was built, and of which no record has been otherwise preserved. They are certainly not mythological, but represent simple human actions, without distortion or the interference of the Hindu deities with any of their distinguishing attributes.

The walls of the upper story No 2 are ornamented in a way entirely different from those below. We no longer meet with the minutely traced figures of birds, animals or men, but bolder and larger figures form a more appropriate support to

the crown of the edifice. These are the figures of Griffins or Garudas, facing on all sides away from the building, and on the top of their heads and tips of outspread wings bearing the entablature of the summit of the temple. A few of these occupy each of the four facades.

The summit forms a flat square about 20 feet each way, but the centre part instead of being composed of hewn rock, like all the exterior part of the edifice, is found occupied with brick work, nor has this been originally built up solid, encompassing a square area in the midst. The trench is about 4 feet deep, and it as well as the recesses are entirely built up of brick without apertures, inequalities or any other marks on the walls to indicate for what purpose it can have served. The centre compartment also entirely of brick, has been originally solid, but the middle has been quarried and broken out the depth of 3 or 4 feet with crow bars in search of hidden treasure, and to this our attendants pleaded guilty, but confessed that their labour had been in vain, having found only some small object like a ram's horn. The trenches had been encumbered with earth, and cleared out by order of our friend Laup.

To what religion, or whose peculiar worship has this temple been dedicated? There is nothing about it at present, to explain either of these questions. The ornamental sculpture not being mythological forms no clue on this score. Budha himself is not seen, any more than any of the Hindu deities. An inference however, may be drawn that the worship was Brahminical and not Budhistic from the circumstance that in the sculpture on the middle compartment, the holy man addressing the queen on more than one occasion, wears his hair and a flowing beard which no priest or devotee of Budha would do. The Garudas set round the upper story are the distinguishing fabulous birds of Vishnu, but Dr. Horsfield, who visited the place in 1815 tells us, when speaking of the top of the temple, "Here the figure of Brama (the recha with four faces) is placed alone, of a workmanship and finish superlatively excellent." This statue has disappeared from the top of the temple, nor does it exist amongst those which are seen below; its fine workmanship has very likely caused it to be removed by some modern plundering vandal. It is said that the Hindus do not build temples to Brama, but if some of these people had colonised this part of Java, either allured by the fine rich country or driven out of India by internal wars, they may have wished to perpetuate the remembrance of their chief deity by consecrating to him so elaborate an edifice. The word Panataran will admit of a

Sanscrit etymology which will lend some countenance to this idea. *Natha* means a master, a chief, a lord, *Ayrya*, a term of high respect, of veneration, and applied to persons of high descent. These two terms, in Ceylon, are applied to Budha, but as a hyperbolical designation might on Continental India be applied to Brama. Supposing this to be the case, with the Javanese idiomatic *Pa* before a word and *an* after, denoting the abode or situation of any thing, we should have *Pa-natha-ayrya-an* contracted for the sake of euphony into Panataran, meaning "the abode of the lord, the holy one." The roomy balcony on the top of the basement story, and in front of the steps which lead to the top of the temple, would have afforded an appropriate spot, at a respectful distance, from which to pay devotion to the sacred image above.

Large trees of a foot or two in diameter are growing from different parts of the edifice, and having inserted their roots between the layers of stone, which they have forced asunder, threaten sooner or later to cause great destruction. To fell the trees at once would perhaps only hasten the evil, but an attempt has been made at partial remedy by lopping off the branches and notching the stems, so as to let them die away by degrees.

In front of the main building at a distance of about 40 or 50 feet are several other buildings or their remains, so that there has originally been a group of which the one already described was the principal, and seated furthest within an enclosure, of which Horsfield says that it was "an extensive area of an oblong form, which was surrounded by an external wall of which the foundations can be traced throughout, and the whole was divided into three compartments." I observed no trace of this compass wall, still it is not impossible that its foundations may exist, were the rank weeds and tangled bushes cleared away all round. Exactly in front of the steps which lead up the face of stories No. 1 and 2 of the main temple, is a small square building of hewn stone, resembling both in size and structure those which form the lines of encompassing temples at Chardi Sewu. It contains a central apartment, the roof of which consists of stones set like inverted steps, the walls are plain, and a pedestal still exists, but its occupant has gone: The back of this building is towards the main one, and its door looks thus towards the west, so as to face people entering the area. The building is sound and perfect, and above the door-way are seen some neatly chiselled characters in relief, apparently a date, of which notice will be taken by and bye. Distant a few yards to the

south of this, so that the interval has formed a sort of gateway or approach to the main temple within, may be traced the remains of another building, which is however now occupied by the arched and spreading stem of a shady kiara or ficus tree. It appears to have been wholly constructed of brick. After scrambling up a heap of rubbish and ruins, overgrown with rank weeds, you descend, as it were, into the body of the tree, and which has been the body of the building, which the ficus has grown round, and holding in its treacherous grasp has disrupted by inserting its rootlets into the materials. The bricks, it was said, had been frequently carried away for modern purposes, but entangled in the roots both around and overhead, patches are still seen hanging. In front, or to the west of this, are two large images of Gatekeepers, resembling those found at Chardi Sewu and Plansan; and further out than these, but somewhat in a hollow or on lower ground, are two similar statues, only much bigger. They are each cut out of a single block of rock, are in a half kneeling position, armed with a club, with prominent features, and hair hanging in ringlets on the shoulders: they are both standing on their pedestals, but somewhat inclined and about one-third buried in the earth. This has probably formed the outermost vestibule of the group of buildings.

Returning towards the temple, on the left, are two oblong platforms elevated about three feet from the ground, built round with hewn stone, which in both cases are embellished with sculpture, much in the same style as on the main building, representing human actions, with various fruit trees often introduced. Steps lead up to these at intervals, which appear to have formed the basements of halls of audience or assembly. As there are no trace of walls having ever risen from the sides, it is probable that they were covered with roofs supported with pillars of wood, and may have served for congregating together to perform religious ceremonies, or even have borne the dwellings of the priests in charge of the temple. The larger of the two platforms extends from near the small temple with inscription over the door, in a north east direction upwards of 50 feet; the smaller one is to the west of this, and supposing the whole group to have been surrounded by a wall, they would be placed in the first area, on entering the enclosure, past the two gigantic gatekeepers.

A little to the east of the larger platform, and a trifle nearer the main temple than that with the inscription over the doorway, is another small isolated building, without however any interior cell or apartment, being solid. It is of hewn stone and rather dilapidated, also partially ornamented with sculpture, amongst

which the most worthy of remark is the representation of a *plough* at work, of the kind which is still used for working sawahs, or the wet rice lands.

A few detached statues have been set up on end in front of the main temple, these however have been more or less violently mutilated. Four, each about four feet in height, are standing in a row, and are of the same general design; two of these have lost their heads entirely, whilst the two others have only had their faces broken away. The reformers of old appear to have evinced their zeal, by disfiguring the faces of the images and not unfrequently by knocking off the heads altogether. These four each hold a *gada* or club in one hand, descending along the limb to the pedestal; on the opposite side each has a small female figure reaching up only as high as the hip. In the case of the two statues where the head remains, the hair is combed back smooth, and then bound round by a fillet, below which it hangs in ringlets on the shoulders. Snakes are coiled round the bodies by way of girdles, but no other distinguishing marks exist to point out whom they may be meant to represent. Their character appears to be that of warders or door-keepers, though of a different class from those gigantic ones which we above noticed as guarding the outer entrance. Near them is the roughly hewn figure of an unfinished image, which appears to be on a similar design and is of some size, probably so left, at the catastrophe which desecrated the sanctity of the temple, and dispersed its votaries: this, however, is important as showing that occasional additions were made to the embellishments of the place. For the convenience of visitors a pondoppo or shed has been built amongst the ruins, at each of the four corners of which is seen the statue of the watcher, or door keeper, the counterpart of the giants at the entrance, only in miniature. They are perfect and uninjured, and little more than a couple of feet in height. From Horsfield's description they, in his time, appear to have served as porters to the entrances of the platforms above described. Near this pondoppo and at the south west angle of the main temple, is another small and thatched shed just large enough to give cover to a stone slab covered with inscriptions in ancient characters, but so time-worn that it would be no easy matter to decipher the words were even the latter known. Horsfield seems to have brought this to light, as it is in all probability the one of which he speaks as follows—"In cleaning up part of the rubbish that surrounded the southern sides of this edifice, (the main temple) I was fortunate enough to discover a monument covered with an inscription of the usual size

and form; but the characters have suffered much from time."

We have now taken a review of the whole of the group of ruins, which are still surrounded by a dense forest, and which may still conceal unknown treasures of art. The soil is rich and the Areca palm trees frequent in the thickets around. Only two small hovels exist at hand, located on the stream of water, which we crossed after leaving the carriage, but should population encrease sufficiently, they would soon be able to convert these softy undulating and rising grounds into fertile plains of cultivation.

From the numerous traces of antiquity scattered over this part of the country, there can be no doubt that at some period it has supported both a numerous and intelligent race of people, but the remembrance of them has melted into the dimness of remote ages, and now only a few vague names are preserved. Our attendants, at the head of whom was the Widono of the district, Kromo Laksono, informed us that Panataran was built by order of a chief called Këndam Sumoro Dono, assisted by his younger brother Kudo Chèpoko, and they even mentioned, though with evident diffidence, that these were the children of Dewa Kasuma. According to the most circumstantial of the accounts given by Raffles, this Déwa Kasuma appears to have flourished in the tenth century of the Christian era. He sent his children to the continent of India to be instructed in the religion of Brama, from whence the eldest returned married to the daughter of one of the greatest princes of that country, and was attended by able artists of different professions and troops for a body guard. These were the parents of the celebrated Panji. Panji's father succeeded to the government of Janggala, but Kediri became the inheritance of another brother, whose beautiful daughter the princess Chandra Kirana (moon-beam) Panji subsequently married.

It has been above stated that the inscription of a date is seen over the doorway of the small detached stone chandi or temple, which only of all the group has an interior cell or chamber. This inscription is cut in relief as well as the edging round it, and flower-like ornament, at beginning and end.*

It in all probability represents either 1241 or 1281, a slight discrepancy of small import, in determining the antiquity of

* The author here gives a copy of the inscription, and with a view to determine the date, compares it with six other inscriptions which he also gives. We shall insert this portion of the paper with lithographs of the inscriptions as a note—at the end.

the place. The era alluded to will be of course that used in Java, viz., that of Salivahana which is 73 years behind that of Christ. This is a comparatively modern date, and being only 120 years previous to the destruction of Majapahit, must belong to its palmiest day. It cannot, however, escape attention that this superb temple at Panataran, supposed to be of Brama, skilfully built of hewn rock, and embellished with well executed historical designs, far surpasses any of the remains of brick buildings found in the neighbourhood of the ancient capital of Majapahit; in short that it evinces a higher knowledge of the arts, a greater influence of religious feeling, in order to have procured the unwearied exertions and labour of a people in rearing so elaborate an edifice. It must be remembered that this date is not found upon the main building, where it is natural to suppose the founders would have placed it, had they been desirous thus to commemorate their undertaking. On the contrary it is placed upon a detached and subordinate small temple, of a style of architecture totally different, and varying from the other buildings here, in the circumstance of having an interior chamber. For what statue this chamber was designed, it is now impossible to say, as the occupant has disappeared. This Chandi itself is still very perfect, but being small and substantially built is calculated to endure for a long time, so that it is impossible to draw any inference respecting its antiquity as compared with the main temple from the mere state of the materials, for though the latter often shows considerable dilapidation, this has been caused by its affording better hold for the roots of trees, which have been the cause of disruption, whilst the chiseling of the sculpture remains yet so perfect. It however strikes me that this, as well as others of the subordinate buildings, have been introduced at various successive periods, and were probably the fruits of the pious labours of different monarchs or men of influence. The want of plan or uniformity in the distribution of the parts is further corroborative of this idea; the designers of the main temple had too much taste to have crowded together the other buildings in the way in which we now find them, nor is it likely that they would have housed over any other god, immediately in front of the feet of their own great Brama, standing in the open air. This inscribing of dates appears to have first come into fashion in the 13th century; none of the finest monuments of Java present any—there are none at Boro Budur, Prambanan nor Singo Sari, but several of 1200 and odd, have been found in Kediri on stone monuments or zodiacal cups, whilst in the following century they become very frequent amongst the

rude buildings of Sukuh. That occasional additions, or embellishments were added not alone to this, but also to other temples, is evident from the half finished lion-watchers at Boro Budur, and it will be remembered that at Panataran, mention has been made above, of a roughly hewn and unfinished figure being found within the area.

Such edifices as Panataran, Singo Sari and many other works of art found at this end of the island, can hardly be attributed to the unaided exertions of the Javanese. The religion to which they belong is without doubt that of the continent of India, and most likely the Hindus were mainly instrumental in bringing them into existence. In early ages the trade in spices was a good inducement to bring the Hindus to Java, and the intercourse was probably considerable. It must have been so when Dewa Kasuma ventured to send his children to India to be educated. They returned with numerous Hindu followers, and as their father shared out amongst them the sovereignty of the east end of Java, it is probable that they and their immediate descendants emulated each other in embellishing their capitals and in rearing religious edifices, in which they would be guided and urged on by their foreign friends. To this period, therefore, I should be inclined to ascribe the date of the best and most scientific of those works, which would be in the 10th and 11th centuries of the christian era. At a later period the Arabs began to monopolise the trade, and the Hindus, subdued and humbled by the Mahometans at home, appear to have lost much of their ancient energy and enterprise.

The day was fast drawing to a close before we could tear ourselves away from this interesting spot. We returned along the road we had come, and as the evening was closing in, many large wild hogs bounded before the carriage, or the graceful peacock with magnificent tail moved slowly out of the way of the horses: here would be plenty occupation for a sportsman. Before we got back to the neighbourhood of Blitar, the full moon was shining brightly, so instead of turning to the right to "Kapanjen" we continued our course down the incline, in the direction of the great river, to visit the government Saw mill at Gaprang. This mill, situated about $2\frac{1}{2}$ pauls from Blitar and nearly four from the main river of Ngujang, was put up, about the year 1830, by Mr William Stavers who at that time had a lease of the country. It is in just the same state in which he left it, and though well enough for private enterprise, 17 years ago, when first erected in the neighbourhodd of plenty of teak forests, it is now, as

a government establishment, hardly worthy of mention. It consists of a small brick building just large enough to contain the Saw frames and scaffolding for the timber, which is brought up on an inclined plane; a small water wheel is the moving power, and two very old Javanese, brought by Mr. Stavers from about Samarang, the engineers who keep it at work. They are father and son, the latter however, looking very little the junior of his gaunt sire. The population about Goprang are employed as Blandongs or wood-men, being exempted from other service. The teak timber in the neighbourhood having long ago been all cut down, they have now to drag the trees from a great distance from beyond the Bali Agujang which alone is four miles distance. Beyond the river is the wild district of Ludoyo, where a good deal of timber still remains but where it becomes every year more difficult to obtain it, the most accessible being of course taken first. The people are paid one guilder copper per beam as a gratification on arrival at the mill. We were informed that it was now impossible to supply government with timber of 60 feet length. The few logs which we saw lying at the spot were only about 20 or 20 feet and quite green; the saw dust on the frames also was soft and wet, showing that no care is taken to collect and season it in the first instance. This object, however, could not be obtained, without a strict injunction of the chief government; under the present system, a department in want of timber, no sooner learns that there is store at Goprang, than wet or dry, they get authorization to use it. Plantations of young teak trees have been made about Goprang, which are thriving very well but it will be many years before they will be fit for the axe. The mill is now evidently badly situated, as the timber has to be brought from across the Agujang four pauls up the incline, there sawn and carried back to the same river to be transported subsequently along it. A situation therefore somewhere nearer its course ought to be selected, and if the stock of timber in Ludoyo is sufficient, a more efficient piece of machinery might be put up.

On our return, close to the village of Goprang we were shown some antiquities hard by the road side, situated under a small open thatched shed. These consist of five or six objects, the principal of which are two figures now set on end and facing each other; they resemble in body and features, with goggle eyes and grinning mouth, the porters or watchmen so often found as guardians of the temples. They are, however, in this instance quite naked and present

a most indecent sight. One which is rather larger than the other, measures $3\frac{1}{2}$ feet from his rump on which he squats, to the top of the head. In manu sinistrâ comprehendat ingentem erectantem penem, which is $2\frac{1}{2}$ feet long and reaches nearly to his chin, having a diameter of six inches, and being thus out of all proportion with the size of the statue. His right hand is seen clicking up his right foot by the ankle, whilst a leer of triumph is depicted upon the countenance. The copious hair of the head is combed back and hangs in a sort of queue between the shoulders. To this figure the natives give the name of *Kiai Gëdè Gaprang*. The image opposite is somewhat smaller, being only $2\frac{1}{2}$ feet high; is also squatting on his rump, with each hand clasping a knee, the legs of which are stretched asunder, with the soles of the feet standing upon the pedestal. This figure is also quite naked, and has formerly borne an erect penis, which has reached to above the navel, it is now knocked off and has left a rough furrow along the belly to which it was attached. This circumstance has induced many people to consider this statue that of a female. This is, however, a mistaken idea; if the rough fracture may be a disputed matter, the scrotum which still exists below on the pedestal must at once decide the sex. The countenance of this figure is expressive of surprise or dismay, apparently at finding the one opposite so much better gifted than itself. A third image is that of a porter, of the usual description, about which there is nothing indecent; it is four feet high, the face and features are very well executed and in a full state of preservation. A few other objects are in the shed but call for no particular remark. Mr Stavers says that *Kiai Gëdè Gaprang* and his associates were found, where they now are, by some of his people, in search of large stones to be used about the erection of the saw mill; they were nearly covered with earth and had to be dug out. No ruins of buildings or temples have been discovered in the immediate neighbourhood to give a clue to what purposes these images may have been subservient. We did not view these remains nor yet the saw mill by the light of the moon alone, but were attended by people bearing bambu flambeaux, which afforded the light of noon-day. It was past 8 o'clock before we got back to Kapanjen, where after a hearty meal, we were glad to get to rest to prepare for the exertions of the following day. Some antiquities have been brought together in front of the house of Kapanjén. The most remarkable of these is a large squatting monkey $2\frac{1}{2}$ feet high. He wears a chawat or

cloth round his loins, has a tail cocked up close along the back as far as the neck, wears a necklace of twisted rope or rattan, from which is suspended an ornament which dangles on his breast; in his left hand he holds a round ball, the upper part of which is broken off; the mouth is open and shows eye or dog teeth; there is a row of curls round the forehead passing behind the ears, but the head is otherwise smooth. There is also the figure of a peacock seen end on in front. The wings are spread out and the tail stands erect behind the head, with which it is in contact; the beak has been broken off, but the topping or crest is still perfect. Two or three small nandis or bulls couchant are here, the largest of which, a couple of feet long, has lost both his hump and horns but is otherwise perfect. There is also a naga's head and a few others of less note.

though Blitar is still a wilderness, and a few years ago was even more desolate than at present, yet from the numerous remains of buildings and antiquities which it contains, there can be no doubt that at some former period it was the abode of a numerous and stirring population. Had they not, however, left these monuments behind them, their very existence might have hardly ever been suspected. From what remains, however, there can be no doubt that the Hindus were the prime movers in the civilization which then existed, and that those Hindus were of the Braminical persuasion, as is attested by the images left. From what part of India these people came, or what was the amount of political power which they possessed, it appears now impossible to say: whether that footing was gained in consequence of the connexion of the children of Dewa Kasuma with India, and thus that the strangers were admitted as friends and allies, or that the story is "a fiction invented by national vanity, for the purpose of concealing from posterity the successful invasion of foreign adventurers"—is a matter which I will not undertake to determine nor even speculate upon. That the influence of these strangers was considerable and exercised at an early period, is evident from their having given Sanscrit names to some of the most stupendous and conspicuous mountains of this part of the island, thereby assigning a local situation to many of the objects of Hindu mythology or romance. Thus we find mounts Arjon, Indrokilo, Indorowate, Semai, and Kawi on one range, whilst Bromo and Semero are within sight on another. In addition to the derivation, which has been attempted of Panataran, it may be worth while to notice,

that Sanscrit origins may be traced for Blitar and the two adjoining divisions of Ludogo and Senggoro, in the absence of any Javanese meaning attaching to the words. *Bala* and its derivative *Bali* imply might, ability, courage, power. Bali was also a virtuous sovereign of Mahabelipura, who was tricked out of the dominion he had obtained over earth and heavens, by Vishnu; yet in consequence of his great merit, he was left in the sovereignty of Patala or the infernal regions. *Itara* signifies other, different, and Bala or Balitar, contracted into Balitar—or Blitar would imply “another dominion,” which would be an appropriate name for the new settlement of adventurers who had failed in obtaining power in their own country or who having, in the vicissitudes of human affairs, been ejected from their rightful patrimony, would willingly compare their lot to that of a distinguished personage of their fabulous history. *Luddaka* is a hunter from *Lubdhaka*; by changing the final and constructive *ka* into *ya*, we should have a noun signifying a “hunting place,” which may have always been an appropriate name for the country between the Kali Ngujang and the south sea, as being badly supplied with water from the low calcareous rocks of the south coast, it could never be brought into the same state of high cultivation as the lands of Blitar on the opposite side of the river, enjoying a copious supply from the lofty volcanoes of Kawi and Klut, and may have thus always afforded the means of enjoying the pleasures of the chase. Senggoro may have its origin in Sangaram or Sangarama (the final *m* and *ma* are constructive) meaning a field of battle. Though I never heard of even a tradition which mentions any particular battle as fought here, still the supposition is not wholly devoid of probability, as it is just in this part of the country, that traces exist of a brick wall, built from the flanks of the Kawi and terminating at the south sea after a course of upwards 20 miles. Such walls are not built till after frequent invasions and battles have suggested their necessity. This wall is known to the Javanese by the name of *Botololo* implying “brick and mortar.” Its foundations are said to be still visible in many places, but our route did not lay across its course. It may have served as a barrier between two states, the capital of one of which may have been Blitar and of the other Singo Sari.

Supposing the lords of Blitar to have had a direct communication with the continent of India, and the neighbouring state of Singo Sari either a rival or inimical, that intercourse must have been maintained by means of the ports of the

south coast, and it so happens that not far to the westward of this part of the country, some very convenient harbours are situated, as of Gemak, Segara Wedi, Sumbreng, Panggol, Segaralama, and still further west, the bay of Pachitan. The suitable position and conveniences of Panggol have within these few years recommended it to Government, who now collect produce there for direct shipment to Europe.

On enquiring of the regent of Kediri, he distinctly and totally disavowed that the ancient capital of Daha had ever existed in this part of the country, its site he maintained to be the same as Prambanan, nor would he admit that the Hindus had ever established themselves at or about the present town of Kediri. Blitar, he exclaimed, was the place where the Hindus were established, as if anxious to insinuate that the place of his own patrimonial abode had never suffered from their invasions.

[To be continued.]

A TRANSLATION OF THE KEDDAH ANNALS TERMED MARONG
MAHAWANGSA.*

By Lieut-Col. JAMES LOW, C. M. R. A. S. & M. A. S. D.

CHAPTER VI.

A LONG period had not elapsed when Rájá Márong Po-disat fell ill and died—and was laid according to the usage towards the remains of deceased princes of consequence and power. The young prince and all his court were plunged in grief, and the sad tidings were communicated by letters to the two brothers and the sister of the former. Then all the ministers and warriors of rank assembled to consult as to what should be the young Rájá's title. The prince determined it should be Rájá Sri Máháwangsá of Keddá.†

This Rájá became tired of living at the fort of Lankasuka because it was *now far from the sea*. Then he directed his four ministers to collect lime and shells in order to make a fort and ditch, *further down*, because that river (or the river) was broad, full and deep, and had an impetuous current. The Sri Máhá Rájá Wangsá, did not fail to go in person to look out for a fit spot for a new station—and as a preliminary arrangement he constructed a temporary small palace at a spot named *Srokam*. At this time the Rájá had born to him a son by the daughter of a *Malayan Rájá* [no name.] Not long after this time a letter arrived from the Rájá's elder brother from Siam. It was accompanied by a great many splendid and costly gifts. It conveyed the intelligence that the Rájá's elder brother, the Rájá of the country of Siam, had got a son, who was very handsome and tall of stature, and that he was *seven* years of age. Sri Máháwangsá was delighted to see all the gifts which arrived along with the letter, and he was only at a loss to send an adequate return.

When the gifts and goods had been deposited in the palace, the Rájá feasted the ambassadors; giving them abundance to eat and *drink*, and appointed a pleasant residence for them.

* Continued from page 181.

† It may be here remarked that the Rájás took, and I believe are now allowed to take, any Malayan title they choose—this conferring no degree of authority upon them.

One day when Sri Máháwángsá was holding his Court amidst his ministers and officers of state, he addressed the four ministers, requesting them to assemble all the gold and silver-smiths, the iron-smiths and the carpenters of the place. These artificers presented themselves before the prince and received his orders. But it was very difficult to please his highness, so that it took several years before the present could be got ready. He even for a while delayed the building of his fort. There was at length prepared a golden tree, having golden flowers, and also one of silver with silver flowers. There were besides, a double pointed and barbed [a] spear adorned with red gold and ferrolled with silver,—a spear with a sharp slender point adorned with gold and silver, and a spear called “the flowered spear” embossed with gold and silver, and weapons and spears and shields complete for warriors. These were all approved of by his highness, and ordered to be sent for the amusement of his nephew, the son of the Rájá of Siam, and in order that the name of the donor should be exalted for the future. The gifts were given in charge to a mantri, with a train of one hundred men besides the Siamese envoys, and honorary dresses were bestowed on the whole. The Rájá further instructed the envoys to convey to his elder brother his request, that should he have other children, he should not fail to apprise him of it, and that if he himself should happen to be dead, the custom should be kept up as regarded his descendants as evidence of mutual fraternal affection. Then all the ministers and envoys who were about to set out, made respectful obeisance and promised faithfully to repeat his highness’ words to his brother the Rájá of Siam. So the party set out for the country of Siam and some time after reached it. It happened that the Rájá there was seated in a large assembly of his courtiers and state officers, and the young prince was also present to witness the opening of the presents transmitted from Keddá. The Rájá was very much pleased with all of these, and at the *play things* which his brother had sent for his nephew the young prince. Then turning to the envoys who had brought these, and the gold and silver flowers, he inquired respecting the welfare of his brother, and Keddá, and if the population of his country was large or otherwise. The envoys replied in the manner directed by their master. The Rájá of Siam was exceedingly pleased with

[a] A barbed spear.

their replies, and laughed and smiled at the news. He then directed honorary dresses to be given to the envoys and mantris, and directed also that they should be hospitably entertained. The objects of the mission having thus been accomplished, the Rájá of Siam sent for the Keddá (envoys) ministers and told them to say to their master—"If I should have a son, or if my brother should have one, let the present custom of sending gifts be observed. Let our brother make in such an event, similar gold and silver flowers with those now transmitted, and forward them to us, because our son has been quite overjoyed at beholding such, and they will be capital play things for him. Since my son saw these beautiful objects, and cast his eyes on the arms and appurtenances, he has felt no desire to return to or enter the palace." "Your highness' instructions shall be fully and respectfully complied with, replied the Keddá envoys, but your servants wish to represent that it is possible, for who can speak to the contrary, that Keddá and its Rájá may at some future period be involved in difficulties. In such an event where can confidence be reposed?—and from whence can succour be looked for, but in, and from your highness?" To this the Rájá of the country of Siam replied—"If any such event should happen to my brother or the country of Keddá, I will consider it as happening to myself. Day and night I will reflect on this; that whatever is injurious to Keddá is also so to Siam, and that their interests are identical, mutual amity will exist for the future betwixt the two countries." So the envoys returned to Keddá.

The Rájá of Keddá Sri Máháwángsá, was very much gratified by the report of his envoys on their return, and with the flattering speeches and letter of his brother, and he was greatly pleased with the gifts, goods and articles of dress brought for him.

In this manner the Rájá of Keddá continued to govern his country—and he busied himself about the building of his fort and palace, collecting lime and shells for the masonry work. He also sent gifts to his brother of Perak, and to his sister in Patani, and acquainted them that their elder brother the Raja of Siam had also got a son, for whom a suitable alliance by marriage was desirable, as he was old enough to become settled in life: [10]

There was in the palace of Sri Máháwángsá a girl who, as before mentioned, was a grand child of the Girgassi Nang Meri, the panghulu or chief, and Rájá over the tribe and

forces of the Girgassi. This girl, it will be remembered, was exceedingly graceful and beautiful, and had a light yellow complexion, and that on account of these gifts of person she had been detained in Keddá when Nang Meri escorted the Rájá of Siam to his destination. Now it so happened, although unexpectedly, that the young prince, the son of the Rájá, became enamoured of this girl, and wished to marry her. The Rájá tried all he could to prevent the match, saying to his son that the girl belonged to a totally distinct tribe, and that no one could tell what might be the result, for observed his highness, "the children of such a marriage may inherit the propensities, and sensual desires of the Girgassi race, and thus *eat flesh without cooking it.*" But the prince was deaf to all remonstrances, and married the girl against his father's will. This disobedience of the prince so preyed upon the mind of the Rájá, Sri Máhá-wángsá, that he sickened and departed, [i. e. died] or vanished, and was *laid* by his son, and ministers, and officers of state, with the solemnities befitting the obsequies of great Rájás. So the prince assumed the reins of Government, and ruled Keddá, following in the steps of his deceased royal father.

About this time some one came unexpectedly [to the Rájá] and gave information that there was downwards or seawards a small stream called Sungei Mas, which communicated with the sea; where the land and situation were both excellent. His highness went to examine the spot and approved of it, for the site of a fort and residence, and he and his chiefs passed up and down with this *intention*. Now it happened at this period that his highness had a son by his princess, the grand child of the Girgassi. The child was of an uncommon size to the beholders. His highness was delighted, and after appointing the necessary attendants from amongst the families of his chiefs, he named his son *Rájá Maha Prit Durya*; and afterwards brought him up agreeably to the usages of great Rájás towards their children. This young prince from month to month, and from year to year, increased in stature. Now the Rájá was still bent on erecting the fort and palace at Sungei Mas. [11]

NOTES.

[10] We are here informed by our annalist that Rájá Márong Pho di Sat was laid or buried. Although, as I shall have occasion hereafter to shew, the people of Keddá were at this period worshippers

both of Buddha and of Siva, it must still appear that cremation was not practised. The word *simpan* or to lay, is the word used by Malays when describing the burial of men of high rank. Within what were once the precincts of the Hindu temples, I have indeed found indubitable marks of the practice of burning the dead, but I apprehend that these were the ashes of priests and persons who had come from India to settle, or zealous native followers of the priests. I was fortunate enough to find during one of my excursions near Gunong Jerrai, several ruins of ancient tombs where bodies were *interred*, and from the size and materials of these tombs, of which the ruins were sufficient to enable me to form a judgment, I conclude they may be the mausoleums of some of the Rájás named by our annalist, especially as the sites correspond very closely with those he describes, and were erected in the vicinity of temples now in ruin. These tombs had been built so close to Sivaic temples that they must have been erected before the introduction of Islamism. The Malays who were along with me expressed their opinion, founded on certain anatomical appearances which I cannot at present describe, that the occupants of these tombs were not of the Malayan race, but were most likely klings.

The Rájás of Keddá seem to have been given to locomotion. Almost every reign was followed by a change in the seat of government. This will help to account for the want of solidity in their forts. These, if we may judge from the existing ruins, were generally of mud—and where bricks and stones were used, these were built up without any other cement than a tenacious clay. The means of the first Rájás, the earlier ones at least, were doubtless rather scanty; and all their superfluous money appears to have been lavished on religious edifices—which last, in so far as I have been able to trace them, were of a simple form, and of moderate size, with hardly any sculpture to render them imposing. We have preparations for burning shells for lime frequently noticed—but I have not found any lime in any of the ruins which I have excavated, comprising all that were of any note. Coral shells are the chief materials from which lime is now made in Keddá and Pinang for architectural purposes, although limestone abounds at no great distance—mounds of shells were found by me near these sites—but probably it was found too expensive to use brick and mortar. The Rájás, it should seem, effected their purposes in those times, as they now do, by forced labor. No subject dared then nor can he now venture to raise a stone edifice in Keddá. Thus the ruins of the largest town would consist entirely of those of religious buildings—and perhaps a very few public ones.

The first move is noticed as having been made down *the river* (near the Muda) from Lankasuka—leaving us to infer that the latter and original site could not have been far from that river. “Lankasuka was at some distance from the sea” meaning by the course of the river—because in a direct line it must have been

close to the sea—unless a previous removal of the capital under the former name had taken place. But such is not stated to have been the case.

The river is described also as being very tortuous, and as having high banks, features appertaining to it at the present day. Owing to the last peculiarity the country is subject to inundations, the slope being from the banks.

Traces of the wall of the fort of *Srokam* still exist, shewing that it was partly erected with the laterite found close at hand, and lining the north bank of the river.

The mention of *drink* in the feasts shews that fermented liquor or ardent spirits formed a part of them. In respect to artificers, enough has been found by me to evince a fair degree of proficiency in the working up of iron. The articles composed of other metals, chiefly bronze, appear to me to have been manufactured in India—and perhaps some of them by Siamese.

The annalist tries to substitute the words “play things” instead of tributary gifts; in order to get rid of an unpleasant conviction; for gold and silver flowers are at the present day the accustomed marks of vassalage and subjection, which the court of Siam exacts from its distant provinces. The value of these is very indefinite. It may range from three thousand to ten thousand dollars.

There were no reciprocal gifts betwixt the Rájá of Keddah and his son and daughter, respectively of Perak and Patani—because, as we may infer, he had no necessity for appeasing them.

There is no mention either, of the decease of the three heads of the colonies thus sent forth.

[11] Young Malayan princes emancipate themselves at an early age from parental authority, paying however at the same time a due respect to their parents. They are generally reckless spendthrifts. Indeed in these days of the decline of the Malayan power, it is a rare thing to find a rich Malay under the rank of a Rájá, while the richest of the Rájás, would be reckoned very poor were he an Indian one.

In the text it will be seen that our author has fallen into another slight inconsistency, for if the Rájá really held the belief that the *Girgassi* were evil spirits, how could he have taken the girl into his family. He is very prolix and tautological in his accounts of royal births. I have omitted all such repetitions.

Sungei Mas was explored by me. It is a small stream falling into the old channel of the Muda river. The appearance of bricks scattered about, tends to corroborate our author's account of it. I excavated the ruins of a brick building without finding any thing to indicate its original use. The Rájá however did not finish his intended buildings at Sungei Mas as will appear afterwards.

CHAPTER VII.

His highness set about building the fort and palace at Sungei Mas. But while so engaged he was suddenly seized with an illness which soon proved fatal. He was succeeded by his son *Wong Maha Prit Durya*—and the government was carried on by him and his ministers, and other officers agreeably to royal usages. The new Rájá did not approve of the spot which had been selected at Sungei Mas, for a fort.

His highness was wicked and mischievous, and gave himself up almost entirely to jungle sports; and passing up and down the river in search of some favorable spot for the formation of a fort and palace, and a new town or settlement for his people. It was not long before he pitched upon a spot below the river district, and so near to the sea that the noise of the waves beating on the shore could be distinctly heard there. But the qualla or embouchure [of some stream our author seems to mean] which was *in* the sea there, was at some distance from the spot selected, although fish could be conveyed up to the latter in a fresh state. Here at length the new settlement or seat of government was established with a fort and palace and town.

It was agreed upon in consultation betwixt the Rájá and his four ministers, and other chiefs, that a deputation should be sent to Acheh, in order to obtain hewn stones, carved with flowered patterns, to be used in the construction of the fort, for Acheh was a celebrated place for its numerous stone cutters and gravers. Envoys were accordingly selected by the four ministers and embarked on board a prahu, in which was an assortment of merchandize, and also some presents. These chiefs prepared the letter for the Rájá of Acheh by order of Maha Prit Durya. In this the prince of that country was requested to accept of the gifts and complimentary presents, and to send back a supply of rare and well carved stones of the kind required; adding that the price was no consideration in the present instance.

Now this Rájá Prit Durya was very ambitious to have his fort adorned with rare *stones and brilliant* mirrors. But his tyranny became daily more grievous. He heeded no one but imprisoned and put in chains whoever fell under his displeasure.

The Rájá called his fort Kota Aur [i. e. the fort of the variegated bambu] because the vicinity afforded forests of that tree.

The Rájá then mounted his elephant one day and accompanied by all his court set out on a tour of inspection of the coast along the main land. He wished to see the islands

lying off the shore, and the large extent of land which had already been left by the recession of the sea. His followers found many wild fruits which they ate

Pulo Srai had by this time become part of the main land and was called Gunong Jerrei. *Pulo Jumbool* also had become attached to the main shore, and was then some way inland, and it got the name of *Bukit Jumbool*. There was also Pulo Giryang nearly in the middle, and also Pulo Tunjong, both of which had been annexed to the main land, also by the receding of the sea, and lay some distance inland. His highness proceeded round Gunong Jerrei straight to the main land.

In the meanwhile the elephant Kamala Jauhari arrived from Patani, bringing with her a young one of great size, and amidst the large concourse of people who surrounded the Rájá, she was recognized by one of the old ministers. "My liege, said he, addressing his highness the Rájá," here is the supernaturally gifted elephant, of old called Kamala Jauhari, come from Patani." His highness waved his hand, and alighted from his elephant. When Kamala Jauhari and her young elephant saw this action of the Raja, then they raised their trunks above their heads and came running into the presence of the Raja, and made obeisance just as if they had been men. His highness patted them on their heads and trunks, saying, "oh Kamala Jauhari! when did you arrive from the Patani country." The sensible animal on hearing this question took up a leaf of a tree and breaking it into two pieces gave them to the Raja, implying thereby that she had arrived just half a day back from that moment. Now in those days no animal could be found possessed of the gift of speech, so the elephant adopted signs. [The Mahometans believe that animals once on a time could speak.] So his highness named the younger elephant *Pulang Hari*, upon which it nodded its head in assent.

The Rájá then bid Kamala Jauhari convey him into the forest in quest of fruits. So on they went followed by the whole cavalcade, shouting, and hunting all kinds of game. What numbers of animals were hunted by the Rájá and caught by the aid of the two Patani elephants, and what quantities of the flesh were dried, besides what were consumed on the spot, when the party halted for the night. The ponds and pools afforded plenty of fish too, for sport, and for curing. The whole multitude was loaded with game; and the elephants, what quantities of dried meat and fruit did they not carry away? After ten days had been spent in this

manner, the Rájá returned to his hall and palace, on the elephant Jauhari. The game and fruits and dried fish on the elephants were then deposited in the palace. His highness next directed the female attendants to bring out plenty of dishes of rice and fried fruits, and preserves, for the two elephants. After this they went away straight to Gunong Jerai, and they caused the Rájá and his four ministers to dream that they, the two elephants, would be found either at that mountain or at Patani, and that should the Rájá or his ministers require them they must burn incense and fragrant gums, and offer sinto and lime juice, and invoke the names of the two elephants. [12]

NOTES.

[12] The following observations may serve to illustrate the foregoing paragraphs:

The expedition to Achin appears to have been the first one undertaken from Kedda. I have found in various directions sculptured stones of the kind now worked in Achin. But the quantity imported in one or two small prahus must have been very insignificant, and I suppose therefore that these stones were only intended to embellish porticos, or to be used as capitals or bases to pillars of ordinary architecture. The stone is called by our author "hill rock." The slabs I have found consist of granite, sand stone and clay and chlorite slate.

The outlines of Rájá Bersiyong's fort are still to be traced on the north bank of the Muda river, and I many years ago excavated several mounds scattered near the opposite bank, in the British territory, and found them to be the ruins of temples dedicated to the Buddhist and Hindoo worship combined, although I suspect Siva was held the most honored shrine. I have followed the tract of the Rájá in his excursion round Gunong Jerai, and the appearance of the country verifies the description given. The forests here abound in flowering trees, many of which bear edible fruits, and game is plentiful. But venison is the flesh generally most prized by the Malays as game. It is dried in the sun as here described, and sold in the bazars. Dried buffalo flesh and salted ducks' eggs form still a part of the exports from Kedda. I have appended a sketch to shew what I apprehend to have been the extent of country occupied by the Hindu Rájás.

The account of Kota Aur is quite correct. By the sinuosities of the Muda river, then called "the river," the distance of the sea must have been a pull of perhaps three hours, while in a direct line the sea could and now can be reached in less than an hour.

CHAPTER VIII.

It must not be forgotten that all this while the inhabitants of Keddá were seized, put in chains, or imprisoned, at the caprice of the Rájá. The four ministers were exceedingly vexed at these manifestations of the Rájá's disposition, for he had become very violent in his temper, and disdained to follow the wise councils, and system of ruling, of his ancestors.

Now his highness had married a lady, the daughter of a *Malayan* Rájá [still no name.] She was handsome, and moreover much liked, so that all those who had complaints to make preferred them to her. The mantris were also much attached to her; and sent their wives and children to visit her, to try and persuade her husband the Rájá to have more forbearance towards his subjects.

At this time the prahu returned from Acheh bringing various kinds of cut, and carved stones, for the building of the fort. These stones were of *mountain rock*. So the men worked on.

One day while his highness was holding his Court, he requested an old minister to approach his person, when he thus addressed him, "I pray you, my lord, to inspect my teeth for I feel an irritation in the places of the two side teeth [a] like the symptoms of tooth cutting." The old mantri (laconically) replied. "Tusks, your highness." "How can that be, said the latter laughing; if these are to be tusks, why did they not appear along with my other teeth when I was young." "But, said another minister, if your highness will permit me, pray what food does your highness most approve of?" Among Maha Prit Durya laughed and rejoined "As to my meals I eat a stew or curry of leechek," that is a dish of the *stalks* of greens stewed and curried down with their leaves. "Your highness, observed the minister, would find advantage in leaving off eating this dish of greens; as they are apt, if used frequently, to produce worms in the teeth." "This may all be very well my lord, but I have been used to this kind of dish from my youth upwards, and cannot now give it up."

Then all held their tongues, but each one of the assembly was now aware that the tusks of the Rájá had appeared. So they called him the Rájá Bersiyong or Bi-siyong, or the *tusked Rájá*. Rájá Bersiyong continued daily to attend the workmen at his fort until the sun was high, when he took the bath and then went to his breakfast. It happened one day that his highness's cook was preparing the accustomed dish of curried greens for his breakfast. In this process she

[a] "Gigi manis,"—I interpret this "canine teeth."

accidentally cut her finger, but in tying the slight wound quickly up, she did not perceive any blood. So she put all the condiments into the pot with the greens, and set the latter on the fire. While stirring the curry it happened that a single drop of blood fell unintentionally from her finger into the pot. Even had she desired to cook another dish, she had no time for it, because the Rájá was ready to eat his breakfast. So she hurriedly put the dish of greens into the bichana or tray and sent it up to Rájá Bisiyong, who partook of the rice and the curried or stewed greens; and mixed his rice with the liquid portion of the curry. His highness relished this dish exceedingly, as it was sweeter and more savory than any that had previously been prepared for him. So after he had finished the whole, washed his hands, and eaten betel, he drew his *sword* and exclaimed, "where is the cook who dressed the curry"? When the cook came before him, he enjoined *her* to faithfully tell him with what condiments she had seasoned the curry he had just eaten, so as to make it so superior to all her previous culinary performances, for added his highness, "if you do not fully acquaint me, you die instantly by the edge of this sword." The cook who was a woman, reflected in her mind, that death would be certain whether she told the truth or not, and that it would be best to speak the truth at once; which she accordingly did, throwing herself on the Rájá's mercy. His highness thereupon sheathed his sabre, and said to the cook—"Well if this be the case, it is all right." He then rose and proceeded to the audience hall, and called aloud, "where is the captain (panghulu) of the life-guards? When the captain arrived, his highness said to him—"Is the person under my sentence for *empalement* for this day still unexecuted." The other replied in the affirmative. Then said the Rájá, "take this cup, and after filling it with his blood, bring it back quickly to me." The guards-man did as commanded, the man was executed by him, and the cup of blood was delivered to his highness. No sooner had he got the cup into his hand than he went to the kitchen, and ordered the cook to dress a dish of curried greens or spinach without delay. When the whole had been about half prepared on the fire, the Rájá came close up himself, and asked the cook what quantity of blood she had dropped from her finger into the former dish. She replied about a drop. So he increased the quantity to three drops which he put into the pot, and then returned to his dining room. He enjoyed this second dish far more than the preceding one. Accordingly on the morrow he had another person executed, and got a curry

made of his *heart and blood*, and he directed the blood to be poured out and a sauce to be made of it.

The Rájá found all this a great improvement to the relish of his meals, and so it became his daily custom to have such dishes served up to him. All other food he loathed, and he went on until he had fairly cleared his jail, and absorbed all the out of jail prisoners who were in *chains* or in the *stocks*. It mattered not to Rájá Bersiyong, whether the delinquencies of these men were trifling or of magnitude, all of them were sacrificed to his horrid gluttony. But he had no intention to stop here, after he had thus exhausted his stock of criminals, he had some person seized daily to supply his meals. It soon however become known to all, that the Rájá had become an eater of human hearts and blood, and the prime ministers became sadly affected when crowds of people came to complain to them. Here one had lost a father, there a sister or a wife or other near relative, whose *flesh*, hearts and blood, Rájá Bersiyong had devoured. [13]

There was a man named Gumpar of Sri Gunong Ledang hill, a consummate villain. He was versed in all kinds of knowledge, good and bad; and his body was impervious to steel. Now this fellow being confident of his own skill permitted himself to be seized by the Rájá's people.

On account of his thus putting himself in the way of being seized, people thought that he had slain a man; he was for the supposed offence carried before the Rájá, who no sooner beheld him than he rushed down with his drawn sword in his hand, and ordered him to be killed. Gumpar exclaimed—"This Rájá does not justly examine into cases, but sits quietly down and orders people to be slain."

The Rájá being enraged at this speech, approached Gumpar, sword in hand, to cut him down. "Is Rájá Bersiyong mad, that he wishes to inflict punishment before he has examined the charge against me?" said Gumpar.

When the Rájá heard these expressions, made as if with the intent to provoke him to eat men's hearts and blood, his sword descended swiftly on the body of Gumpar cutting away all the fastenings which held him, but without inflicting any wound on his person. Gumpar laughed and said, "your highness will have a full feast to-day on my heart and blood, will you?" Quickly then did Bersiyong cut again at Gumpar, but he missed him. Then he cut and slashed away, but Gumpar smiled and remained unhurt and immoveable. The Rájá called out then to all his people to slay the man. So they came and stabbed and cut at Gumpar with all kinds of weapons, but made no impression upon his person, "See said

Gumpar laughing, this mad Rájá trying to get my heart and blood, but cannot succeed! perhaps he may get the heart and blood of some beast instead."

The Rájá not listening to this language, again tried to kill Gumpar with a spear, and all his people assisted in thrusting and cutting at him; there was a great hubbub, and people outside of the fort were astonished to learn that there was amoking within it. Gumpar was hard pressed, but he now turned his body a little and assumed the shape of a boar of immense size and having prodigious tusches, and rushed with speed betwixt the legs of Rájá Bersiyong, who was thus rolled over, and whose spear was broken, and its head snapped off in two. But that huge boar was not wounded. The boar again ran straight at the Rájá, who however did not receive any wound, his clothes only being torn and scattered. So Bersiyong snatched his sword once more to try his strength, for he cared not for his own person, and hundreds came to his assistance. The boar feeling himself rather getting the worst of it, suddenly stirred and shook his head and body, and became a fearful tiddong silla or hooded snake, the girth of which was that of a cocoanut tree, whose tongue was lolling out, and whose eyes were large as cymbals.

The people amazed, dispersed, only a few daring persons remained and beat the snake. Men again assembled in greater numbers with loud shouts and noise to destroy the snake. The latter pursued the Rájá who sought for shelter behind a tree. And now arrived the four ministers with the government officers and numbers of attendants; who drawing their swords entered the fort to arrest the tumult. The snake did not like this accession to his opponents, so he converted himself into a very fierce royal tiger of great size and length, and then roared tremendously like thunder, or the noise of the day of judgment, nothing in reality could be louder, while it was also mixed with the cries of men. So the crowd dispersed.

The four mantris hereupon presented their blunderbusses [b] at the body of the tiger, which although it was not wounded, felt very much *pained*, and all the balls glanced off his person. This attack made the tiger seek safety in flight. Having sprung towards the fort-gate and got safely out, he escaped to the forest without being seriously injured. [14]

The four chiefs having thus by one discharge each, driven off the tiger, proceeded towards the hall of audience, to see if

[b] Of course this is an embellishment of the historian as the blunderbuss was not known to the Malays until the advent of the Portuguese.

there was any one else fighting, and on their way they found the Rájá concealed and destitute of clothes behind the tree. They gave him part of their dresses and escorted him into the audience hall. Here they had all the broken arms collected, and here they learned the cause of the uproar, and the real conduct of the Rájá, and his horrid propensity to eat the hearts and blood of his subjects, whether they were criminals or innocent persons, and that he had quite abandoned himself to this anthrophagism.

The four ministers having consulted amongst themselves, proceeded one *night* into the Rájá's presence, who just come out to hold his court. These ministers thus spoke—"May it please your highness to cease from slaying your subjects in this manner. We have constant and loud complaints from mothers and fathers, brothers and sisters, of your cruel behaviour." "My lords, I desire that you will not again address me on this subject. I am resolved to continue executions as hitherto." "If this be your majesty's sentiments, then it is plain that some time hereafter our own families and descendants will be sacrificed. When your highness shall have driven all the strangers out of Kedda, and the ryots shall have sought safety in other countries, where then, may we ask your highness, will you find people to attend you and obey your behests? Where we ask, after you shall have eaten the flesh, hearts and blood of the remnant that may have not escaped?" "If replied the Rájá, it should thus come to pass and that I shall be left alone, what can I say then, but that I must patiently continue alone. If I cannot find people to kill, then I will leave off the custom you complain against." "If your highness determines thus to persist in opposing us four, we have no course open, but to oppose and resist your highness, for no such *practice as that of eating the flesh, hearts and blood of men, was ever heard of from the days of your forefathers up to your highness's reign.*"

"Well, my lords, if it is your intention to attack and try to kill me, then we shall resist you to the utmost of our power." The four chiefs hereupon descended from the audience hall; and while so doing said to his highness—"We advise your highness to strengthen the defences of the fort and ditch, for we will certainly attack you, and this be assured will we do without fail." Rájá Bersiyong now entered his palace and acquainted his wife and concubines, and all the iomates and persons present, with the intended attack of the ministers and the alleged cause for it. He also directed all his officers who were in the fort to have the *guns* ready on the ramparts, and to bring forth and place in readiness all the other arms; and

he especially directed that the *four angles* of the fort should be well manned. Now there were in the fort only about five hundred of the Rájá's slaves, servants, and dependants, all ready armed, upon whom he could repose confidence. So he stood prepared to meet the attack.

When the four mantris had reached their houses, they ordered that on the morrow all the able bodied ryots should be assembled from both the upper and lower districts on *the* river. The Gundang Raya, a great drum, was also beaten, such being the signal for the people to collect with arms in their hands. The order was promptly obeyed, because the people individually hated the Rájá for his tyranny and cannibal propensity.

The wife of Rájá Bersiyong beheld with great anxiety the evils likely to be inflicted on the inmates of the palace, and the people in the fort, on account of the wicked propensity of her husband, and that all were likely to be killed for the fault of one. She therefore selected four dayangs or maids of honor, and despatched them with a message to the four ministers, requesting that they would not destroy the fort and palace or set fire to it, or in such an event all inside would be killed. This mission the messengers accomplished without the Rájá being aware of it. "If your mistress the Rájá Perampuan, or queen, said the ministers, laughing, wishes to save the fort and people she will join us, for we have no fault to find with any one within the walls, excepting Rájá Bersiyong, who we intend to kill." "Your lordship's advice will be duly reported," replied the messengers—"But, urged the mantris, you must tell the queen that if she denies to join our party, she must direct that all the guns of the fort shall be loaded with powder only, else there will be slaughter on both sides, and much mischief be experienced hereafter."

The queen entered into the mantris' project with alacrity and good will. She sent for the panghulu of the fort and the captain of the guards to attend her secretly. When her highness met them she said—"Oh panghulus, you are old men, and enjoy the confidence of Rájá Bersiyong, you know his present inclinations, and are aware of his acts. The mantris have acquainted me with their wishes," which she here repeated. The two panghulus replied—"Your servants are ready to do what they can, and to consult with all the people in the fort and palace." The queen informed the two chiefs of the communication she had with the four mantris, and what they had advised. The two panghulus took leave promising to attend to the queen's wishes, and meanwhile busied themselves in (apparently) obeying the orders of Rájá Bersiyong.

The very numerous forces of the mantris having been all collected and found well armed, they arranged them into four bodies, for each of the four angles of the fort. The war drum was then beaten in order to raise the valor of those who might be afraid. Then the four columns marched at once, and simultaneously assaulted with terrific shouts, the four angles of the fort. Rájá Bersiyong too was not idle, he buckled on his arms, and about his waist he rolled a cashmir shawl which was forty yards long. Around his head he wreathed a twisted fillet of cloth, and he put on his person a gold enamelled kris. A scarf covered his shoulders, the two ends falling down behind, and his jacket was of gold flowered satin of the kind called *biji bayam luruh* or "scattered seeds of greens." His appearance was surprising, and he looked as if he would set the whole universe on fire. He wielded a barbed and shining spear.

Being fully equipped he rushed out of his palace and along the ramparts, directing the guns to be shotted and fired, and spears, and other missiles to be cast down at the assailants, and all the gates of the fort to be closed and locked. The noise and uproar arising from the combatants at the angles of the fort shook the very walls, while the volumes of smoke from the *unshotted* guns, turned day into night. Thunder could not have been heard amidst such a tumult of combatants. How then could the cries and lamentations of the terrified women and children be heard.

Now the four ministers observed with apprehension, that the ground was quite slippery, so as to prevent their men approaching the walls, until the sharp stakes had all been thrown at them from above. However they were not wounded but only bruized a little by these missiles. The four ministers were greatly enraged and quickly ordered half of their men to go and cut wood in order to make ladders or *siggei* and torches for scaling the walls. When the men heard this order some of them staid to fight, another party went to cut the wood required, while a third, which had been just about to climb the wall heeded not the din, but bore the brunt of the attack made on them by those from within the fort.

These few who succeeded in reaching the top of the wall dropped down again like flowers falling from the branches of a tree, or like children at play. The bright arms flashed like lightning through the murky clouds of smoke, and both sides fought sturdily for seven successive days and nights, deaf to the noise and confusion, and without fear.

Rájá Bersiyong supposed that the slaughter all this while

must have been great, so he kept fighting. But at the end of the time noticed, the four ministers stormed the wall at the head of their men, with loud shouts and cries. Rájá Bersiyong instantly ran hither and thither animating his people to fight the guns, and charge the assailants, but his astonishment and rage became unbounded when he discovered that not a man had been killed on either side; and learning that the four ministers were in search of him, he quickly fled out of the fort by a small private port in the east face, and escaped into the forest. The ministers on hearing of this, settled that two of them should follow the Rájá's reported tract, and the other two should search for him within the fort, in case the report might be untrue. When Rájá Bersiyong heard the clamour of those despatched to kill him he took to flight in real earnest.

His arms, accoutrements and clothes lay scattered about on the path. In this way he was pursued till next day, when the chase ceased, as the Rájá could not be overtaken and slain. Such being the state of affairs the four chiefs resolved in the open hall of audience to assume the reins of government. So every one returned quietly to his house and business. At that time therefore there was no Rájá in Keddá.

But the care and protection of the fort, and the palace and their inmates, devolved on these four mantris, because Rájá Bersiyong had neither son nor *daughter* who might have succeeded him in the government of Keddá.

NOTES.

[13] We are left in the dark as to whom this "Malayan Rájá" was. Indeed the locality of the Malays is nowhere mentioned. As our author was a Mahometan, he and the people were doubtless ashamed of this cannibal propensity in one of the Rájás of their country, and therefore invented the story of his having tushes like Girgassi to account for it.

This Rájá is the only one of the Pagan Keddá family, whose name is familiar to the Kedda Malays of the present day; and he figures as a sort of rawhead and bloody bones, to keep children in order.

We are not to suppose that Rájá Bersiyong eat greens only. These formed the chief ingredient in his curry. Female cooks are always employed by the Malays when they are married or can afford it. The wives and female members of a family prepare the food, and the men only cook, when they cannot help it. Occasionally a man may be found who does not use the betel compound, which is generally as indispensable a necessary of life as salt.

It appears that the Captain of the Raja's gward was the executioner, which is the case also in China. [1] In flagrant cases of crime, the Malays of this coast punish by empalement, and also, like the Siamese and Burmese, by cutting open the body from the breast downwards. This last punishment was inflicted by one of the chiefs of Kedda during the rebellion of its Malays against Siam in 183031 upon the person of a Bengal man of Pinang, formerly a sepoy in the corps I commanded, who had joined the insurgents but was suspected of treachery.

[14] The whole of this account of Gumpar is merely one of the Malayan modes of describing the acts of a hero. But our author has made the Raja's subjects rather more disposed to assist him than might have been expected from them, liable as they were to be any day served up at the Raja's table. The mention of blunderbusses is quite out of place, as such weapons were certainly not then known.

[1] Davies' China.

[*To be continued.*]



A FEW PARTICULARS RESPECTING THE NICOBAR ISLANDS.

By the Rev. J. M. CHOPARD, *Missionary Apostolic.*

As far as my acquaintance with the natives of those islands and their language enabled me to carry on my investigations, during a stay of about 2 years amongst them, I do not think that the amount of the whole population spread or scattered over the Nicobar Archipelago, exceeds the moderate amount of 8,000 souls; of whom about 2,000 inhabit Carnicobar. Theressa where was I settled had a population of about 500 souls.

Being but slightly acquainted with few of the languages of India, I am not able to trace back through that channel the origin of the savages of those islands. The shape of their body, and particularly the features of the face, incline me to believe that they belong rather to the Hindoo race, than to the Burmese or Malayan. The hair is not of a deep but rather slight black, the eyes black, the nose *aquiline*, the body well shaped and proportioned; the stature exceeds that of the Burmese and Malays. The Nicobarians are strong and capable of carrying very heavy burdens. I have seen some of them carrying without any trouble 200 cocoanuts. I had with me a large trunk filled with books which I was hardly able to move, one of the natives, to my great surprise, placed it upon his shoulders, and walked a good distance without being apparently fatigued.

All the inhabitants or aborigines belong to the same race. In the islands of the south it strikes me that there is some mixture of Malay blood, in those parts too the Malay language is very extensively or rather universally known.

I have much questioned the natives concerning their origin and the epoch when their ancestors landed first on those shores, but nothing satisfactory upon that important point could be obtained. The impression their different stories has left upon my mind is that from a very remote period the Nicobar Archipelago has been inhabited. It is hardly necessary to notice that their narrations upon that subject ended invariably in ridiculous and puerile fables, to which no credit can rationally be given. The absence of any monument whatever will probably leave the question for ever unsettled.

The language used by the Nicobarians is polysyllabic, abounds in vowels, and its pronunciation is harsh and far from being harmonious. After my arrival, when I heard the natives speaking, it appeared to me that the sounds formed in

the throat came out through the nose, and that the tongue, the usual instrument for producing distinct sounds, had very limited functions in their language. Young boys, as speaking generally more distinctly than grown up persons, were my teachers at first, until my ears had been practised to the hearing of such confused sounds.

The chief food of the Nicobarians is the pulp of the cocoanut, yams, plantains, papayals, fowls, and above all pigs, which abound in those Islands. It is not uncommon to see round a single hut, 40, 50, or 60 of them. The quantity of pigs killed and eaten is almost incredible, yet the Nicobarians, however voracious, separate the grease from the flesh, and keep it separately for culinary purposes; they never eat, or rather devour anything, but the flesh, and that for a single festival day. To satisfy my curiosity I saw and counted 75 large pigs killed for satiating the wolf-like appetite of the inhabitants of a inconsiderable district of my Island. In this respect, the Chinese could not be a match for the Nicobarians.

Notwithstanding this immoderate use of food, the natives are seldom to be seen with those nasty and disgusting ulcers so common amongst the Chinese who belong to the poorer class. They are attacked with many cutaneous diseases, but not of the worst kind. I do not recollect having ever met with a single individual marked with the small pox, a circumstance which induces me to believe that that disease is quite unknown in those Islands. Twice a year almost all the inhabitants are attacked with a severe cough accompanied with fevers. The Nicobar islands are famous as a place where strangers are inevitably attacked with a most violent fever. My unfortunate companion fell a victim to its malignity, I very narrowly escaped, and at last was compelled to go to Mergui on the Tenasserim Coast for the recovery of my most debilitated health, yet, I believe that, with a stock of good medicines and especially quinine, one can live in those islands and successfully check the fever. The probable cause of the unhealthiness of the country is its uncultivated state, the number of streams stopped in their course by fallen and decayed trees and plants, and forming many swamps and marshes. Should the country be cleared of its jungle, so far as to afford a free circulation to the air, I have no doubt that the Nicobars would not prove a more unhealthy place than other countries situated under the same latitude. Although fever seems to spare partly the natives to a certain extent, the period of their existence is confined between narrower limits than that of Europeans,—it is exceedingly rare to see men living beyond 60 years, and women 50. From what I heard

from the natives, population is certainly on its decline, and should christian civilization not to come to the help of those wretched savages, the time is probably not distant when they will have disappeared entirely, as so many wild tribes have done in different parts of the world.

The Nicobarians do not possess the slightest knowledge of a Supreme Being, they have no religious worship whatever, unless we give such a name to the superstitious ideas they entertain concerning the souls of the dead. They dread much the souls of wicked people, because they believe that after their demise, or the separation from their earthly abode, those souls retain their former malicious propensities, and endeavor to annoy the living. The Nicobarians believe that they can propitiate those evil spirits by making to them some offerings. It is customary among them to make great rejoicings on the occasion of the funeral of old people. The defunct, previously to his departure from this world, fattens a number of pigs and fowls, which are to be eaten on the occasion of his funeral. Next to this, in point of folly, the parents invariably bury with the corpse all the small property belonging to the deceased, such as clothes, or rather rags, silver, knife, &c. This is the reason why the silver they get in exchange for their cocoanuts, or which they rob from vessels which happen to fall a prey to their rapacity, disappears almost completely, without affording them any profit.

The Nicobarians hold in dishonor simultaneous polygamy, but do not scruple at all about successive polygamy; that is to say, they never keep more than one wife at once, but they are easy in dismissing her for the slightest motive, and taking another. The dismissed wife is not considered as dishonored, but can easily find another husband. This is perhaps the principal reason of the comparative sterility of those women, notwithstanding their being of a corpulent and stout complexion. The females are universally far from being fair, and indeed they are probably the ugliest in the world; they shave their heads in order to add, as one would believe, to their natural ugliness and deformity.

The chief productions of the country are the cocoanut and the betelnut. The cocoanut tree grows on the flat ground, chiefly along the shores and in the valleys. The nut is not of a large kind, but filled with a thick pulp which yields more oil than the nut of a longer kind. The yams of Nicobar are probably the finest in India, both in size and quality. Oranges are very abundant and remarkably sweet. Various sorts of plantains are to be found. I had taken with me some seeds of different kinds of vegetables, they grew remarkably well, and their

taste appeared to me not inferior to those of the same kind I had eaten here. There is no timber of a large description, the hilly part of the country is covered with a high grass which the natives are in the habit of partially burning every year.

The Danes are, I believe, the only Europeans who have made an attempt to colonize those islands. In about the middle of the last century they settled at Camarta, but the little colony was soon swept away by the fever. It is said that many Danish Missionaries died in that island, their tombs are still to be seen, of course in a very decayed state. When I went to that place I was so weak and exhausted, that, to my regret, I could not go near them. The missionary efforts appear to have been entirely unsuccessful, although they laboured during a period of nearly 30 years. I have found among the inhabitants of that Island no vestige at all of christianity. The only thing which is likely to perpetuate the remembrance of the Danish settlement, is the great number of wild cows which have multiplied from the stock brought over by the Danes.

In time of war the Nicobar islands have often afforded a shelter to vessels, sometimes they went there to get water; Admiral Suffren when cruising in the Indian seas touched there several times. During the late war the French privateers anchored several times in the harbour of Nancowry,—up to this day the natives have retained many French words, mostly those coarse expressions which are chiefly used by sailors. I must say that they appear very quick in picking up a little of the languages used by the navigators who visit their islands; they understand besides Malay and a little of Portuguese, English, Hindustanee and Burmese.

The only iron weapons they use are those they receive from foreigners in exchange for their cocoanuts, such as knives of different sizes and spears. Some of them possess muskets, but use them very little. They are much afraid of that weapon; a single man by pointing at them a musket would probably make them run away like a flock of sheep. Their favorite weapon, which is peculiar to them, is a sort of *javalin* which they throw to a great distance of 50 yards, they often poison the point of the weapon, and the poison they use is a most subtle one.

From what I have seen of this people, I do not believe they are naturally cruel and fond of spilling the blood of their fellow creatures. They have an aversion for such a deed, yet cupidity or the desire of procuring things they are fond

of, can prevail upon the inhabitants of the southern islands to perpetrate murder. Silver either coined or in other shapes, seems to have a peculiar attraction for them, and is the article which chiefly induces them to commit murder upon the crews of vessels they suspect to have on board money or silver things. Cowardice accompanies them in the execution of their nefarious designs. They wait for the moment when the poor sailors are not on their guard to fall upon them and dispatch them as quickly as they can, but they would never dare to make an open attack even upon a native crew.

The following instance is an illustration of their way of attacking and murdering people. I vouch for the accuracy of the facts which I am about to relate, as I heard the story related to me by different natives on the very spot where the murder took place.

This year about the end of January, a brig coming from Calcutta anchored at Caramata Islands, in a place called False-point; the vessel was commanded by a Native. There was on board either a European, or a half caste (he was dressed like a European) a Chinese carpenter, and a crew of about 25 lascars, half Malays and half Bengalese. After having taken on board about 1,000 cocoanuts, the boat with a part of the crew was sent on shore to take water; they were well received by the natives, who invited them to rest and drink some cocoanut water:—the treacherous offer was gladly accepted by the unsuspecting sailors. When they were quietly enjoying the refreshing drink, a party of natives hidden behind bushes, rushed out suddenly and with their large knives killed the poor sailors before they had time to act in defence, at the same time another party went to the vessel, as they were in the habit of doing; the sailors were eating their rice, the natives instantly fell upon them and soon dispatched them. It appears that they did not stab the captain, but three stout men seized him by the waist, and smashed his head upon the deck; this being done, they plundered the vessel; having taken what they liked, they brought to the vessel the corpses of those who had been murdered on shore, made a hole at the hull and sunk her.

An inhabitant of that island, about 35 years old, told me that he recollected of 7 other vessels which had been cut off in the same manner; at great Nicobar island, a still greater number of similar deeds have been perpetrated, because the inhabitants are more cruel than in any other place.

Pinang, 2nd June, 1844.

SIR JAMES BROOKE'S EXPEDITION AGAINST THE
SAREBAS PIRATES.

ON a former occasion I forwarded to you a list of the native flotilla, which was ready to put to sea with Sir James Brooke in his recent expedition against the pirates of Sarebas.

The expedition set out on the 25th March, and visited every river between Sarawak and Sarebas, in hopes of finding the enemy, but without success. In the course of a few days the flotilla was joined by prahus from various rivers on the coast, which I did not formerly reckon, but which were as follows, in addition to my former list:

Samarahan,	additional	5
Sibuyows,	do.	4
Sarawak,	do.	7
Sadung,	do.	10
Linga,	do.	12
Sussung,	do.	5

43

Former list 55

98 prahus.

This formidable flotilla was led by four boats of the H. C. Steamer *Nemesis*, under the orders of Mr Goodwin, and whilst the gallant commander Captain Wallage with his Steamer guarded the Sarebas river, the expedition entered the Kaluka, and at once ascended both the right and left hand branches of Lipat and Sussang. At the former place the Malays were found trading with the pirates, and having been advised to be cautious in future, became guides to the interior of the Rembas branch of the Sarebas river.

At the distance of about 60 miles, up the Lipat from the sea, a force of about 2,000 men was landed, and was absent for three days, during which time it captured several places, and destroyed large stores of rice and salt. This land force was so slightly opposed, that it was conjectured that the men were mostly absent, either to defend the fortified position of Truh on the Rembas, or preparing to attack some other place. The latter conjecture was found to be correct.

The flotilla next returned to Sarebas, and at the mouth of the Rembas, one small advance boat sent on to reconnoitre encountered a piratical force (or as it is here called, a balla) of about 40 boats, which guessing the approach of the Sarawak expedition, returned in the utmost haste, leaving behind, rice, fire-wood, and some cooking pots, all which articles were very acceptable to our Dyaks.

After further beating up their quarters in the Rembas to the full extent that prudence would permit, with so small a force of Europeans, the flotilla left the river Sarebas, and the people proceeded on their return to their separate homes.

Ten boats from Sadong however went up to the mouth of the Linga river, intending to join a party of Balows in an excursion up the Sakarran, and as they lay at anchor, they were attacked during the night by from 100 to 150 Sakarran boats, which came down that river, for the purpose of surprising the town of Banting in the Linga. A conflict ensued of some duration, but as the Banting people and the Balow Dyaks with about 35 prahus hurried to the assistance of their allies, the Sakarrans fled, after losing four large prahus and some men, and when the last accounts reached Sarawak, the Sadong and Linga people were in hot pursuit of the pirates up the Sakarran.

The Sarebas balla driven back from the mouth of the Rembas, was evidently to have joined this large Sakarran force, and one good resulting from the expedition has been preventing the murder and devastation which this fleet would have committed.

The enemy received serious damage in the interior of the Rembas, and will feel sensibly the want of that first necessity of life—salt, now that the intercourse with Lipat is cut off.

A. C.

Sarawak, 20th April, 1849,

FIVE DAYS IN NANING.*

SECOND DAY.

[Wednesday, 10th February, 1847.]

WE slept at Abdulrahman's and next morning proceeded to Ganong Ayer Panas. Near Fort Lismore are a few small tombs where the officers who fell in the Naning war lie buried, and which help to perpetuate the remembrance of proceedings which cannot be viewed on any side without dissatisfaction and pain. A day's intercourse with the people—a peaceful, rural race—had convinced me as much of the inhumanity as I had before been of the impolicy of the war. The only apology that can be found for it is in the supposition that those functionaries whose negotiations and reports brought it on, laboured under an entire misconception of Naniug and its inhabitants. A European travels with a sense of such absolute security amongst agricultural Malays, and is treated with so much deference and friendliness when his own manner is courteous and friendly, that it is hard to conceive that anything short of a supercilious behaviour, and a despotic disregard of rights and prejudices, could provoke them into an armed resistance of an European government. The truth is the Malays are essentially a peaceful and not a warlike people. It is their keen sensibility to injuries and their child-like attachment to their chiefs that incite them to war, but I believe the great mass of those who join the standards of the chiefs are not animated either by a warlike feeling or a love of fame, and would prefer remaining in their kampongs. The Malay, if left to himself, is indolent and unwilling to be roused out of his usual state of contented repose, but his prejudices, attachments and superstitions are deeply rooted, and may be easily worked upon.

After crossing the valley we rose over a broad undulating hill, Bukit Jalatang,† which was at first open, but soon became enveloped in jungle, about twelve years old and thirty feet in height. After proceeding half way over this hill, Abdulrahman led me through the jungle on the left, and by a path which none but a Malay could have traced in the thick brushwood, to a hollow varying in breadth from 6 to 30 feet, 8 to 10 feet in depth, and filled with large leaved

* Continued from p. 41.

† The Jalatang is a small shrub the leaves of which sting the hand slightly.

marsh plants of several species. In the bottom were five pits at some distance from each other, which Abdalrahman had dug a few years ago in search of gold. He had got a little, but not enough to make it profitable to continue the search. This indifferent success he attributed to the defect of skill in the pawang whom he had employed. The section made by the pits shewed the following beds :

1. Upper layer of clay or mud..... 2 feet
2. Angular fragments of quartz mixed with
sand..... $1\frac{1}{2}$ to 2 ,,
3. Sand..... depth unknown.

Gold was found in all the pits, disposed very sparingly and in minute particles in the second layer, or rather where it passed into the third. The quartz fragments, varying in size from 5 and 6 inches in diameter to minute particles, lay heaped around the pits. Some were whitish, but most had a bluish color from the presence of hornblende, occasionally in fine veins, but generally diffused. The hornblende is undergoing decomposition, which causes the quartz to yield readily to the hammer. The rock exactly resembles some of the rocks of Pulo Ubin* in the old Straits of Singapore. The auriferous quartz vein is horizontal, but whether it was so originally, or this has resulted from the gradual formation of the hollow, by the washing away of clay and the decomposition of the hornblende causing an inclined vein to disintegrate and subside to the level of the bottom, I could not ascertain. None of the fragments are in the least rounded by attrition.† One of the pits was dug close into the side of the hollow, through 3 to 4 feet of a brownish yellow clay, being that of which the upper soil of the hill consists, to a layer of bluish clay which when exposed to the air, had rusty stains, and in which the quartz fragments were here imbedded. This clay is evidently a decomposed felspatho-hornblendic rock. The matter in the bottom of the pit has a decided taste of iron.

Gold is believed to be under the care and in the gift of a dewa or god, and its search is therefore unhallowed, for the miners must conciliate the dewa by prayers and offer-

* These interesting rocks I have described in the Transactions of the Batavian Society.

† See some remarks on the important subject of the origin of the tin and gold containing layers of the Peninsula, *Sketch of the Physical Geography of the Malay Peninsula* (Journ. Ind. Arch. Vol. II p 105) The valuable description of the minerals and mines of Banks, by Dr Horsfield may be consulted throughout with advantage (Ib Vol. II p 373, 705, 799.)

ings, and carefully abstain from pronouncing the name of God or performing any act of worship. Any acknowledgment of the sovereignty of Allah offends the dewa who immediately "hides the gold" or renders it invisible. At some of the great *limbonḡan mas* or gold pits in the Malay states of the interior, any allusion to the deity subjects the unwitting miner to a penalty which is imposed by the Panghulu.

There was no trace of laterite at or near the gold pits or the path to them. We returned along one side of the hollow which rapidly widened and deepened till it became a small shallow ravine. As we proceeded along the public road, laterite soon appeared in the form of gravel, scoriform blocks, and occasionally intermixed with quartz as on the road between Alor Gaja and Tabo. At one place fragments of a bluish hornblendic quartz, similar to that in the gold pits, were strewed about, marking the course of a similar vein. So little accustomed are the Malay to connect their observations and draw conclusions from them, that no one would ever dream of looking for gold anywhere save in an alluvial flat.

After crossing the broad surface of Jalatang, we descended into the narrow flat of Ganong Kache, which runs to the W. N. W. in a line which cuts the N. E. extremity of Gunung Tampeng. The next hill, B. Ganong, is also a wide tract of slight elevation, and, like B. Jalatang, lateritic in many places. The road at first lies through dense coppice. Towards the northern side of the elevation the jungle retires on both sides, leaving an open green covered with the common short and scanty grass, and dotted with shrubs. These greens, which indicate the vicinity of villages, are very agreeable. The jungles contain abundant matter for observation, and in the heat of the day, save in the middle hours, form a grateful screen, but the senses soon become in some measure dulled to their beauties from constant repetition, and the eye longs to be relieved from "the boundless contiguity of shade." Hence we see with a keen relish the light breaking into the depths of the thick entangled wood, the trees scattering, and the little plain gradually opening. In the morning a glittering freshness clothes the grass, and the birds, which prefer such places to the hearts of the jungles, flit about and make the spot cheerful with their notes. Fruit trees and cottages soon appeared on the right while the green continued on the left, goats cropt the grass and skipped about, and the whole scene had a character at once so peaceful and so lively that I felt disposed to retract the

disparaging comparison which I had made when in Rambau. After passing the village of Ganong, the road descends to the side of the paddy valley on which Ganong lies, but speedily rises again over a jungly spur of the hill, which at first is strewed with a gravel of laterite or iron-masked micaceous clay, but soon shews only a light clay.

When this has been passed a comparatively wide open tract is entered. The valley stretches up, bounded by brushwood, to a grassy slope on which a bungalow stands and towards which the roads leads over the flat. On the right a branch valley runs to the S. S. E. and, as we advance, another is seen on the left with a W. N. W. direction. Half way to the bungalow and on the left side of the road, a low fabric with clay walls and grass roof marks the hot springs of Ganong, generally called Ayer Panas. Behind the bath, and stretching up to the road beyond it and into a dense thicket behind, lies a pool or swamp of hot water, covered with a thick, fat, pulpy substance of a reddish color externally, formed of scum and leaves more or less decomposed and massed together. A few yards behind the bathing house, and on the margin of the pool, a well has been sunk and bricked round. Here the water continually rises and runs into channels which convey it to the two bath rooms when required, or, when not, discharge it on one side. I stooped over the well and plunged my hand in, but the heat was so much greater than I had anticipated that I immediately drew it back. The sensation was not merely physical. For more than two years I had devoted most of my leisure hours to the investigation of the geology of the southern extremity of the Peninsula, and I had gradually accumulated a body of facts which confirmed the opinion, resulting from my earliest observations, that the firm basis of the land immediately before the period of repose which has lasted till now, had been partially melted down or reduced by internal heat and the crust broken, bent, raised, and, where not reduced or completely transformed, been in very many places, partially calcined, iron-masked or otherwise altered. I had frequently, amongst the islands around Singapore, come upon low rocky cliffs which gave new and unexpected illustrations of the truth of this theory. But still the fact of the land, now so stable, having thus, as it were, at one stage and that the last in its history, been upborne almost floating on a sea of molten rock, seemed to belong to a period entirely separated from the present, and of which all the

active forces had died out in remote ages.* In Malacca and Nanning I had every where seen the same fact repeated, although often in different language, and nothing could be more certain than that the country in which I now was, formed with the southern extremity of the Peninsula one geological region. The earlier events of their history had not been the same, but at the latest epoch of action, both had been embraced within the range of one great revolution, branding them with the same character, and their history then became o.e. As I looked down into the well at Ganong and saw the water bubbling up, and felt its heat in my hand, what had been in Singapore a slowly elaborated theory, seemed to announce itself directly to the senses. Here, at this moment, and in open day, is the very heat, so to speak, that has broken up and metamorphosed this region, and formed the mountains, hills and vallies of the Peninsula, brought by this water to the surface from its subterranean source, probably even now uncrystallised. Coming after so many explorations leading to new and sometimes perplexing facts giving rise to temporary doubts, the unexpectedly high temperature of this spring seemed to place me in the presence of a living witness of the events which I had been seeking to regain from oblivion.

As all the hot springs in the Peninsula, and some at least of those in Sumatra, occur in swampy flats, a comparison of the physical features of the elevated ground surrounding or adjoining them may explain the mode of their production, and I shall therefore mention those of Ganong. The flat or small plain has a general direction of about S. by S. W.—N. by N. E. It is formed by the meeting of three smaller vallies, two of which enter its N. E. extremity. These are caused by the extremity of a hill, called Bukit Sapom, interposing itself between the bases of the two broad flat hills or raised tracts which form the eastern and western boundaries of the plain, and are here deflected in an easterly direction. The other valley lies between B. Ganong (which forms the southern boundary of the plain) and the base of the hill on the west, which, on approaching B. Ganong, turns to the W. N. W. $\frac{1}{2}$ N. The outlet or continuation of the flat runs S. S. E. $\frac{1}{2}$ S. between B. Ganong and the base of the eastern hill; both of these, at this south-eastern end of the flat, bending so as to give it that direction. It will thus

* I had at first endeavoured to connect the numerous evidences of ancient igneous agency on the Peninsula with the active plutonic forces of Sumatra, *Journal of the Asiatic Society (Calcutta)* 1847 p p 541—557.

be seen that the flat is formed by the meeting of four low hills; all of which appear to have widely extended surfaces. These hills are more or less iron-masked, with the exception probably of B. Sapom on which no rocks were visible on the line where I examined it, but which is a spur of a wide undulating tract extending to Sabang and mostly, if not entirely, granitic, as will afterwards appear. The hot swamp lies, as I have said, between the road and the base of the hill which forms the western side of the flat. I could not approach it from the hill as the ground is there uncultivated and swampy, but the thicket which rises out of it extends nearly back to the hill, and is said by the Malays to have a bottom of hot mud and water throughout. The water must rise from more than one place, and the quantity discharged is considerable, as, where it flows out beneath a bridge across the road, it formed a running stream three feet broad and three inches deep. Every day there is probably discharged about ten thousand cubic feet, and as it has a temperature of 110° the quantity of heat that it conducts from the interior to the atmosphere must in the course of ages be great.†

In the evening I walked to Sabang. The road lies over a flattish undulating tract apparently of decomposed granite, but no rock is visible. It is covered by patches of low jungle and brushwood, and open grassy spots which are well cropped by goats and buffaloes. On arriving at the first enclosed cottages of Sabang, the ground rose on the left and some

† Dr Daubeny in the last edition of his work on volcanoes (1847), concludes from a review of known thermal springs that "thermal waters in general afford indications of the more languid and continuous operation of that internal Force, which manifests itself in the volcano and the earthquake;" (p. 571,) of the whole number of thermal springs he had previously established that "a very large proportion of them arise from rocks, which in their general aspect and structure attest the operation of volcanic forces, at one period or another" (p. 543), and with respect to the numerous hot springs which issue at places at a distance from active or extinct volcanoes, he had shown that they are generally connected with dislocations of strata which must have been caused by plutonic or volcanic action (554-556); that the gases they in general contain are those which volcanoes commonly emit (557-570); and that they are entirely wanting over vast tracts of country where no volcanic appearances exist (p. 571). I have thought it necessary to state the results at which Dr Daubeny has arrived, because in two works which are more likely to be in the hands of most of the readers of this Journal than Dr Daubeny's,—Humboldt's *Cosmos* and Mrs Somerville's *Physical Geography*—thermal springs are more exclusively referred to the general internal heat of the earth, and therefore considered as indices of the depth from which the water has risen. The spring of Gsnong is an addition to those proofs by which Dr Daubeny connects springs at a distance from volcanoes with volcanic action. It occurs at or close to the line up to which plutonic action has converted the rocks of the district into granite.

large grey granite blocks were seen breaking through the sward. The straight side of an oblong block ranged N. N. W.—S. S. E., that of a larger one E. N. E.—W. S. W. and another was sinuous. Thus the same characteristics which are found in the apparently isolated granite of the coast, are repeated as we approach the great mountain masses. On another side of the elevation, where it slopes into a moist hollow filled with sago and other trees, still larger blocks rise above the surface. In the next elevation the granite changes to reddish. The fences and fruit trees on the right mark the continuous belt of enclosures with their cottages which form the village. A narrow paddy flat running about N. E.—SW interrupts them for a little, and from its edge a high and steep ridge rises, called Bukit Marachet. It is the highest point of a range running about N. N. E.—S. S. W. which has several summits, and all the higher parts of which are clothed with original jungle. The west face of B. Marachet is bare nearly to the summit; abundant black rocks scattered over the grassy slope, and the slight section made where the public path skirts the belt of fruit trees, give some insight into its mineral constitution. The fracture of the rocks shews a friable quartz traversed by numerous small veins of black iron crust (hydrated peroxide). Occasionally the rock is less quartzose, and its original form is then seen to have been a micaceous sandstone. The unaltered sandstone may even be here and there detected, but in general it has been converted into compact iron-seamed quartz, or a black scoreous iron hydrate. In one small rock all these various forms were seen together. In many places the quartz passes from an amorphous to a finely crystallized state, the crystals occasionally radiating from a centre.

On climbing to the top of the grassy slope, a striking view was obtained of the country in front. On the east and stretching away to the south east, a broad and perfectly level plain of rice lay beneath the eye, and through it the Suŋgi Tampin took its course. The undulating ground beyond, which was thickly covered with cocoanuts, fruit trees and cottages, bounded it with its irregular margin, presenting in its wavy outlines and frequent advancing prominences, the precise appearance of the indented shores of a lake or inlet of the sea. The sense of the resemblance was heightened when a Nanning Malay who accompanied me, in mentioning the names of the different places where the dry and elevated bank jutted into the flat, used the word *tanjong* which I had so long associated with the points or capes of the sea coast

and islands. One of the largest of these (*Tanjong Riman*, Tiger Point) was covered with gomuti trees, the dark heavy foliage of which swelled finely above the yellow rice. Clusters of black specks scattered on the plain marked where the women were busy gathering the crop. The nearer margin of the plain was partially concealed by the belt of fruit trees which covers the base of the hill on which I stood. To the S. by E. Panchur rose boldly, but it was striking to observe that the granitic undulations of Sabang, over which I had just passed, lay at a level so much below that of the partially metamorphosed sandstone on which I stood. While examining some of the rocks a Malay sat down on the grass beside me and entered into conversation. I enquired for books, but although Sabang is the most considerable village in Nanning, he did not think that any body but the Imam possessed one. At last he recollected that he himself had a manuscript, and invited me to go to his house to see it. While I was busy with my hammer an active boy played between him and my conductor went on. After he had learned all he could about me, he asked why I broke the rocks and carefully wrapped the chips in paper. My conductor offered various conjectural explanations which however were not satisfactory, for every new glance at my movements irritated his curiosity a-new, and produced fresh speculations. I continued my walk to the extremity of Marachet where it sinks into a narrow flat, one of the branches of Tampin plain. Beyond this flat the ground is sandy and undulating and probably granitic like that to the south of Marachet. As far as I proceeded it was covered with kampongs and open grassy spots where buffaloes were grazing. The farther I had come, Gunong Tampin at every fresh glimpse of it appeared more bulky and imposing, and it was with great regret that, at the fall of evening, I turned back when I seemed to have reached its close vicinity, and the vallies and hills were all drawing towards it, and arranging themselves in obedience to some hidden law of subordination to it. A little beyond the place where I turned, a dry prominence in the middle of a flat is called *pulo* or island. On my way back I visited my new Malay acquaintance, whose kampong and cottage were close above the paddy plain and very neat. Unlike the Malays of Kida his hospitality did not extend to the offer of a cocoanut. My conductor asked if he would sell one and a single nut was detached from a tree, nor on its proving to be empty and diseased was it replaced by a better. Meantime the book was produced. It was a little volume which had remained in the family from

time immemorial, and of which the nucleus had been some prayers in Arabic. To this various additions in Malay on different subjects, and with a curious diversity and defectiveness of handwriting, had been made from time to time. The clerical art which would thus appear to have visited the family in its rudest shape in former years was now wholly lost, for neither its present head nor any of its members could read or write. The book was nevertheless, or perhaps so much the more, highly respected and prized, and its owner was horror-struck at my proposition to purchase it.

On returning I examined the S. E. slope of Marachet where it sinks into the narrow flat that divides it from the granitic tract of Sabang. An abundance of small black blocks are scattered over it. Of these a considerable proportion have a scoreous appearance, but many are of the true lateritic form. I concluded that the junction of the granite and laterite was here also in the flat, but as I was leaving I noticed a broad greyish block on the margin of the paddy which proved to be granite. I could trace the granite by the soil along the margin, but although I searched till it was nearly dusk, I could not find any line of demarcation between the granite and laterite, or any rocks in which both forms were present. The granitic block was from 20 to 30 paces from the lowest laterite blocks. The position and composition of B. Marachet strongly confirm the hypothesis that the plutonic action which produced the granite produced also the laterite and other iron-masked rocks.*

One of the most striking features of the Nanning villages is the mode of placing the graves. Instead of being scattered about they are placed alongside of each other so as to form a long mound, one grave in breadth, and lengthening by each new burial. When the ground does not allow of the line being further prolonged, another is commenced. The most common tombstones are rough granite slabs, as at Tabo. Flowering shrubs are planted beside them. Several of these grave rows are seen near the first cottages of Sabang as we enter it from Ganong.

During this walk I met a great number of Malays. Their general physical character was similar to that of the Malays of the Malacca territory, but with this difference that the face was rounder, the nose more flat, the nostrils more perceptible,

* I have since found granite and laterite in actual contact on the east coast of Battam, an island opposite Singapore. Many other observations have for some time satisfied me that the hypothesis mentioned in the text is correct. Readers who are interested in such enquiries may refer to this Journal Vols. I. and II.

the lips more prominent, the complexion darker and redder, and the expression more open and less acute.

As I was leaving Sabang I met the Panghulu followed by a train of men armed with spears, and preceded at some distance by a few women who hastily retreated to the rear when I came in sight. The Panghulu stopped and with an air of great cordiality took my hand in both of his, detaining it some time and making friendly enquiries. At last he released the hand, and delivered it to one of his train who, after bending over it and making his salutations, passed it to the next and so on until it had gone the round of the whole. When I had proceeded, the party seized on my attendant and kept him some time till their curiosity respecting the orang putih and his mysterious attachment to stones was satisfied.

J. R. L.

(To be Continued.)

SAGO *

IN most parts of the Indian Archipelago two kinds of alluvial soil are found in greater or less abundance, one consisting chiefly of sand often thrown up in long banks, and the other chiefly of decomposed vegetable matter. The latter is often a consequence of the production of the former, which serves to keep out the waves of the sea, and allow a rank vegetation to flourish. In process of time by the elevation of the surface, and the extension of a similar formation seaward, the older marshes are no longer subject to tidal invasion, and become gradually filled up by the decay of fresh water plants. For these two descriptions of soil nature has provided two kinds of palm adapted in a wonderful manner to the necessities of man. On the barren sand she has planted the cocoanut, and in the morass the sago tree.

It is to the latter that we wish to direct attention, because in our immediate neighbourhood, along the immense alluvial tract of the Sumatra coast from Siak to the Lampongs, and in the large plains of the rivers of the Peninsula such as those of Rio Formosa and the Muar, there are hundreds of miles of sago land unoccupied and unproductive, every acre of which is capable of yielding at the rate of about twenty thousand pounds of meal yearly.

The sago tree is found, in one or other of its species, throughout the whole length of the Archipelago, from the islands off the west coast of Sumatra to New Guinea. It is probably capable of flourishing with complete vigour across nearly its entire breadth wherever its natural soil occurs, and certainly within ten degrees north and south of the equator, a band which includes all the Archipelago save the Philippines. The only countries however where it is found growing in large forests are New Guinea, the Moluccas, Celebes, Mindanao, Borneo, and Sumatra, being widely spread over the Moluccas, but confined to particular parts of the others.

The sago does not appear to be indigenous in Sumatra and the Peninsula, which is perhaps the reason why it is little used

* The following paper is composed chiefly—1st, of an account of the mode of cultivating and using the sago in the Moluccas which we have translated from the Dutch of M. de Steenr (Tijdschrift. Neerl. Ind. 8th year, 3d. part, p. 367) adding to it some notices from Valentyn and Forrest. 2d, of an account of the cultivation of sago in Sumatra and the earlier statistics of its manufacture in Singapore, extracted from a paper in one of the early numbers of the Singapore Chronicle, the contents of which we have obtained permission to use for this Journal. To these we have added, 3rd, an account of the mode of preparing the Pearl Sago of commerce by the Chinese manufacturers of Singapore at the present day and of the Singapore sago trade.

by the Malays. In the eastern parts of the Archipelago it forms in many places the chief portion of the food of the inhabitants. In Singapore we know it principally as an imported article prepared by washing and granulation for the European market. It comes to us chiefly from the adjacent coast of Sumatra and from Borneo, and passes through the hands of Chinese refiners before it is purchased for export to Europe. An account of the production of sago in the eastern and western parts of the Archipelago, the modes in which it is prepared and used by the natives, and the process of purifying and granulating it in Singapore, may help to fix attention on the fact that the Archipelago can furnish any required amount of meal, and that its present high price is owing to the succession of rude manipulations, all attended with wastage and expence, which it unnecessarily undergoes. Instead of being at once carefully washed and cleaned at the place of growth, this work is there performed in a slovenly and imperfect manner, but with more labour probably than a thorough purification by a good process would require. It is then packed in small quantities in leafy receptacles and arrives here dirty and sour. The Chinese have now to do the whole work of cleansing over again, with this disadvantage that the farina is no longer fresh. Their process too, although far superior to that of the Malays, is imperfect, and involves a considerable waste both of material and labour.

SAGO IN THE MOLUCCAS.

Amongst all the trees which we have yet mentioned, says Valentyn in his account of the vegetation of the Moluccas, there is none more useful to the Amboynese than the sago tree. It shews itself at first, and for a long time afterwards, merely as a bush or shrub, consisting of different upright branches which are about 15 or 16 feet high, green, concave in the inner side, convex on the outer, and smooth. On the lower part of these, long small thorns are seen, which stand in order above each other like needles, the middle being always the longest. The leaves, which are very long and small, stand out on both sides of these branches, are longer, broader, and thinner than those of the cocoanut, and have on the sides soft, erect spines. In due time there rises from this bush a stem, which having reached twice the height of a man, gradually loses its thorns except those above, which also afterwards gradually fall off. The branches, which become tolerably thick, have a broad base called *gururu*, about three feet long and a foot broad, being almost like a gutter which surrounds the stem and

the next branch, and decreases to its top. The upper part of the branch is called *gabba gabba* and is about the thickness of the arm at its top and much thicker below.

As long as the stem is immature the thorny branches at the bottom protect it from the wild hogs who would otherwise batten on the meal. It gives no fruit until all its strength is expended and its death approaches, and when the branches are strewn with meal, at which time small fruits like round pigeons eggs shew themselves in great number at its top, like a crown. These are green and when ripe sour, and they finally become yellow.*

* Oud en N. O. I. This appears to be *Metroxylon Sago*, or *Sagus Konigii*. The following botanical description by Dr W. Jack, of one of the Sumatra and Malacca species, *Sagus laevis*, of which the accuracy is confirmed by Dr Griffith who adopts it in his paper on the Palms of British East India, appeared in the Malayan Miscellany published at Bencoolen:—

This valuable *Tree* rises to the height of about twenty feet, and is generally surrounded by numerous smaller and younger plants which spring up around it after the manner of the Plantain (*Musa sapientum*). The *stem*, which is about as thick as that of the Coconut tree, is annulated by the vestiges of the fallen leaves, and the upper parts commonly invested with their withered sheaths. The *leaves* resemble those of the Cocos, but grow more erect, and are much more persistent, so that the foliage has not the same tufted appearance, but has more of the graceful ascending curve of that of the *Saguerus Rumphii*: they are pinnate, unarmed; the leaflets linear, acute, carinate, and smooth. The tree is from fifteen to twenty years in coming to maturity, the fructification then appears, and it soon after decays and dies. The *inflorescence* is terminal; several *spadices* rise from the summit of the stem, enveloped in sheaths at their joints, and alternately branched. It is on these branches that the *flowers* and *fruit* are produced, and they are generally from five to eight inches in length. They are of a brown colour, and closely imbricated with broad scarioso scales, within which is a quantity of dense ferruginous wool, in which the minute flowers are imbedded and completely concealed. Each scale supports two *flowers*, which are hermaphrodite, and scarcely larger than a grain of turnip-seed. The *Perianth* is six-leaved, of which three are interior, the leaflets nearly equal. *Stamina* six; *filaments* very short; *anthers* oblong, two-celled. *Ovaria* three, connected together in the middle, each monosporous. *Style* none. *Stigma* small. *Fruit* single, nearly globular, somewhat depressed at the summit, but with a short, acute, mucro or point in the centre; it is covered with scales which are imbricated from the top to the bottom, and are shining, of a greenish straw colour, of a rhomboidal shape, and with a longitudinal furrow down their middle. Below the scales, the rind is of a spongy consistence, and the fruit contains a single seed, of rather an irregular shape, and having the umbilicus situated literally a little above the base of the fruit. The progress of the fruit to maturity is very slow; and is said, according to the best information I can obtain, to occupy about three years from the first appearing of the spadices to the final ripening of the fruit. During the period of inflorescence, the branches of the spadix are brown, and apparently quite bare. Afterwards a number of small green knobs appear above the brown scales, which go on enlarging, till they at length acquire the size of a small apple. But few fruit come to maturity on each branch.

In habit and character this tree recedes considerably from the true *Palme*.

The sago tree, whose appearance when it has attained its full growth, has much that of the gomuti tree, is cut down at the bottom of the stem. The greater or less adaptation of the ground regulates its speedy or slow development; its full development may however be placed at about 10 or 15 years. The natives know this period from the appearance of the fruit at the top of the tree, and then call the tree *ma a putrie*, (ripe). The tree requires very little care in rearing it, only attention must be given that it is not covered by creeping plants, and that the feet of the trees be kept somewhat clear of high weeds that the growth of young shoots may not be hindered. A full grown tree of good quality may generally be valued at a sum of $f8$ copper, and a medium tree at $f5$ copper. The sago tree being cut down, the mealy substance inside is taken out and prepared for use and transport in the following manner. The stem is cut with a *parang* into pieces of a fathom in length, which are split through the middle and cut up, and are always carried with great care to a running water. To separate the meal from the shell, the native uses an indigenous adze, *nany*, which is of the following description; a piece of bambu 3 inches in circumference and 2 feet long, is pierced with a slanting hole in which another piece of bambu like a chisel, and sharpened at the broad end, is stuck and fastened to the other with a string. For the cleaning of the sago, that is to say, to separate the meal from all impurities and woody particles, an apparatus is used called the *satrany*; it consists of the end of a large old sago stem already properly excavated by nature, fitted at the

Its propagation by radical shoots, exactly in the same manner as the common cultivated Plantain, is peculiar, and is not observed in the true Palms. The terminal inflorescence and death of the tree after fructification is another peculiarity. It is allied to *Calamus* by its retroversely imbricated fruit.

This species of Sago is abundant in many parts of Sumatra and at Malacca, and is employed in the preparation of Sago for food. Considerable quantities are made at the Pogy Islands, lying off the west coast of Sumatra, where it in fact forms the principal food of the inhabitants. The Sago of Siak is remarkably fine, and is also, I believe, the produce of this species. At the Moluccas the spinous sort is considered superior to this, but I am doubtful whether it exists in Sumatra.* For making the Sago, the tree must be cut before fructification commences, as it then becomes hard and dry.

* The Sumatra plantations contain three kinds, one spinous both on the trunk and leaves, *rumbia* (*Sagus Konigi*); one spinous on the leaves only, *sanka*; and the other without spines, *bumban*, which appears to be the female *sago* or *sago molat* of the Moluccas and the *Sagus lœvis* of botanists. Valentyn says the meal of the female sago does not keep so long as that of the other species. He mentions 4, and M. de Steurs 6, species. J. R. L.

broadest side by means of bambu pegs to a bag of the bark of cocoa nut, *runut*; the *satrany* thus provided, is laid upon two wooden forks about 3 or 4 feet high, the open end being considerably higher and placed under a stream of water running very gently from a bambu pipe, while right opposite the other end a long and very strong stick is stuck in the ground, and bent till its upper extremity is brought down to the level of the *runut* to which it is fastened. The *runut* is thus always kept in a state of tension, when the sago meal mixed with water is pressed by the hand against it. The meal passes through the *runut*, while the coarse matters, (*ela*,) remain in the sago trough, and serve as food for pigs and poultry. [On the *ela* when thrown aside in heaps a kind of mushroom grows, which forms an agreeable dish; and when the trees rot, there also grow in the rotting parts as well as in the crown, fine, fat whitish sago-worms with brown heads, which the natives roast on skewers, and devour as a great dainty; but the heads are taken off and then they are eaten by some Dutchmen also. But I cannot say how they taste, for I never had an inclination to try them *]

The sago pressed through the *satrany* is received into the *goti*, which also rests on two forks stuck in the ground. The *goti* is a portion of a split sago trunk, of which both ends are made watertight by sago leaves and the spongy substance of the *gomuti*, or the bark of the *kayu puli* tree. The *goti* always receives such a supply of water from its upper extremity that it remains full, and gently overflows at the low end, thus allowing the heavy *farina* to sink, while any woody particles that have been pressed through the *runut* are carried off by the water.

This simple operation, called *pukul sago* or striking the sago, being performed, the *farina* is taken out of the *goti* and packed in cylindrical baskets made of sago leaves, ready for exportation. These baskets, which are all nearly of the same size, are named *umang-sago*.

It is worthy of remark that the whole of this native mode of preparing the sago, which comes entirely within the reach and understanding of every inhabitant, was taught to the Amboynese by Rumphius who is so well known to them. Before that time the Amboynese, like the natives at this day at various places on Ceram and Buru, and also elsewhere as on the west coast of Sumatra, used the sago mixed with the *ela*. The recollection of Rumphius is general

* Valentyu.

amongst the Amboynese, and is accompanied by a true recognition of the value of this most necessary mode of preparing an article of food which nature has so bountifully bestowed.

A good sago tree produces about 25 tumangs of meal, which being sold at from 0.75 to 0.80 k. gives the manufacturer a good profit.

The native of the Moluccas prepares the meal in different ways, chiefly however as a hard bread, which, if kept dry, may be preserved as long as our ship's biscuits, and is called *sago lemping*. The meal after having been dried for two or three days is sifted until it becomes tolerably fine but remains somewhat adhesive. It is then formed into small flat cakes which, to the number of 7 or 8, are placed in a mould of red earth and baked to the proper degree.

The *sago borneh* or *borneo*, granular sago, is dried for a shorter period, then sifted, and shaken by two men in a piece of cloth until it granulates. It is then smeared with fresh cocoanut oil and heated in an iron pan (*latyu*) until it attains a certain degree of hardness, after which it is placed in the sun to dry.

A third mode of preparation is the *sago tetupala*. The meal is aired until it becomes red, when it is sifted, and stuffed into an entire fresh bambu, which is placed in different rows above a fire until it bursts and the sago is roasted. Sago thus prepared may be preserved a long time if kept dry.

The fourth mode is the *sago buksona*. The meal is mixed with grated *santang kalapa*, sugar, and a little pepper and salt, enveloped in young sago leaves, and boiled in water.

To make the *sago* or *kwee bagea*, the meal, after being dried in the air to redness, is sifted, mixed with fresh *kanari* kernels, and then baked in young sago leaves. *Sago baruwa* are small sago cakes of different forms. The *sago sinale* is the meal baked to a cake in a pot. The *sago uha* is the meal enveloped in fresh sago leaves and baked on the fire. *Sago kalapa*, like the *lemping*, is baked in moulds and mingled with much grated *santang kalapa*; the outside is smeared with *gula areng*, and it is eaten warm. *Sago kalapa* is even preferred by Europeans to bread at breakfast, and ranked as a dainty. *Papedz*, *sago bubur* or *pap* is prepared in the same way as arrow root.

To proceed to the uses to which the native of the Moluccas puts the sago tree over and above extracting from it a wholesome and abundant article of food, we remark that no part of it is lost or suffered to remain unappropriated.

The branches, dried and cut to lengths of 6 to 10 feet and in this state called *gaba gaba*, soon gain a fine, brown, shining colour; the hard shell preserves the spongy interior from destruction when it is not exposed to rain and humidity. The houses are partly and sometimes wholly made of *gaba gaba*; the best are those of which the frame work is of wood and the sides of *gaba gaba*. The branches having a concave and a convex side are fastened to each other by small pins, and make as good a wall as planks. Instead of a wall round the yard they also use the *gaba gaba* which is made to rest on a low frame work or a foundation of stone, and is protected above by a little atap copping. The *gaba gaba* placed on a wooden frame work generally lasts from 10 to 15 years,

The leaves of the tree, while still green, are made into ataps, and serve to cover dwellings. When well laid on they last about 7 years. The bark of the tree furnishes a valuable fuel. The stalk of the leaf gives the well known *sapu lidi*, like that of the coconut and gomuti.

The hard rind, or bark of the thicker or lower side of the branch-stem is made into a kind of bucket called *gururu*, in which the *saguero* liquor is collected. From the extremity of the branch, while it is yet very young and green, they prepare a kind of *kadas* which is used for the sails of native vessels and of *orembaais*, and also for making the thick and middling sails called *ayia ayia*. The root of the tree which has been cut down produces new shoots, and is therefore not dug out.

We may remark finally that the Moluccas produce five kinds of sago trees viz. *sago-ikar* with all its leaves depending and full of thorns; *sago tuni* with horizontal leaves and less thorny; *sago molat*, entirely divested of thorns; *sago makanaru*, with leaves somewhat bent down; and *sago rottan*, like the last, but with a stem much higher than the other kinds.

Forrest and his crew, during the voyage in the Tartar Galley which he has so graphically described, lived much on sago, and his experiences as an actual sago eater in the Moluccas, enable him to speak with all the knowledge and discretion of a farinaceous epicure. The following remarks by him will therefore complete our notices of sago in the Moluccas.

One tree will produce from two to four hundred weight of

* Valentyn.

flour. I have often found large pieces of the sago tree on the sea shore, drifts from other countries. The sago thus steeped in the salt water, had always a sour disagreeable smell; and in this state, I dare say, the wild hogs would not taste it. The leaf of the sago tree makes the best covering for houses, of all the palm* kind: it will last seven years. Coverings of the nipa† or common attop, such as they use on the south west coast of Sumatra, will not last half the time. When sago trees are cut down, fresh ones sprout up from the roots.

We seldom or never see sago in Europe, but in a granulated state. To bring it into this state from the flour, it must be first moistened, and passed through a sieve into an iron pot (very shallow) held over a fire, which enables it to assume a globular form.

Thus, our grained sago is half baked, and will keep long. The pulp or powder, of which this is made, will also keep long, if preserved from the air; but, if exposed, it presently turns sour.

The Papua oven, for this flour, is made of earthen ware. It is generally nine inches square, and about four deep: it is divided into two equal parts, by a partition parallel to its sides. Each of those parts is subdivided into eight or nine, about an inch broad; so the whole contains two rows of cells, about eight or nine in a row. When the cell is broad, the sago cake is not likely to be well baked. I think the best sized cell is such as would contain an ordinary octavo volume upon its edge. When they are of such a size, the cakes will be properly baked, in the following manner:

The oven is supposed to have at its bottom, a round handle, by which the baker turns the cells downward upon the fire. When sufficiently heated, it is turned with the mouths of the cells up; and then rests upon the handle (which is now become the bottom) as on a stand.

When the oven is heating, the baker is supposed to have prepared his flour, by breaking the lumps small, moistening it with water, if too dry, and passing it once or twice through a sieve, at the same time rejecting any parts that look black or smell sour. This done, he fills the cells with the flour, lays a bit of clean leaf over, and with his finger presses the flour down into the cell, then covers all up with leaves, and puts a

* Those trees of the palm kind, have all a heart like what is called the cabbage tree; even the head of the common ratan has a small cabbage, of which I have eat.

† The ordinary leaf for covering so called.

stone or piece of wood atop, to keep in the heat. In about ten or twelve minutes, the cakes will be sufficiently baked, according to their thickness; and bread thus baked, will keep, I am told, several years. I have kept it twelve months, nor did vermin affect it in that time. It may not be amiss to mix a little salt with the flour.

The sago bread, fresh from the oven, eats just like hot rolls. I grew very fond of it, as did both my officers. If the baker hits his time, the cakes will be nicely browned on each side. If the heat be too great, the corners of the cakes will melt into a jelly, which, when kept, becomes hard and horney; and, if eat fresh proves insipid. When properly baked, it is in a kind of middle state, between raw and jellied.

A sago cake, when hard, requires to be soaked in water, before it be eaten, it then softens and swells into a curd, like biscuit soaked; but, if eat without soaking (unless fresh from the oven) it feels disagreeable, like sand in the mouth.

No wonder then, if agriculture be neglected in a country, where the labour of five men, in felling sago trees, beating the flour, and instantly baking the bread, will maintain a hundred. I must own my crew would have preferred rice; and when my small stock of rice, which I carried from Balamhangan, was near expended, I have heard them grumble, and say, *nanti makan roti Papua*, "we must soon eat I'apua bread." But, as I took all opportunities of baking it fresh, being almost continually in port, they were very well contented.

The sago bread intended for immediate use, need not be kept so long in the oven as what is intended for sea use, which may be said to resemble biscuit.

I have often reflected how well Dampier, Furnel, Roggewein, and many other circumnavigators might have fared, when passing this way in distress for provisions, had they known where to find the groves of sago trees, with which most islands here in low latitudes abound; Morty, near Gilolo especially. Fresh bread made of sago flour, and the kima (a large shell fish like a cockle) would have been no bad support among the Moluccas. The kima is found in abundance, of all sizes, at low water, during spring tides, on the reefs of coral rocks. From experience, I equal the fresh baked sago bread to our wheat-bread; and the kima stewed, is as good as most fish, nor does one tire of it; but it must be stewed some time, or it will not be tender. Its roe will sometimes weigh six pounds; the fish altogether, when cleared of the shell, weighing twenty or thirty pounds.

THE SAGO OF SUMATRA *

Low marshy situations shut out, but at no great distance from the sea, and well watered by fresh water seem most productive. The soil in such situations to the depth of several feet is generally a flaccid mould, composed chiefly of decayed vegetable matter and extremely pervious to water; below the above depth a stratum of marine formation generally exists. According to Raffles, on Java this tree is found only in a few low and marshy situations, and the preparation of sago "from the pith is not known to the inhabitants." Marsden says that sago is but little used by the Sumatrans, and Crawford presumes that in this, or the Western part of the Archipelago, the sago palm is an exotic. Our enquiries have been unavailing in the attempt to discover it as indigenous in our neighbourhood, and we feel confident that it does not exist in the native wild state to the westward of Borneo.

The best sago produced in our vicinity, is from the Islands of Appong and Panjang, which form the East bank of *Brewers Straits* or properly Salat Panjang—and next in quality, is that from the rivers Mandha, Kataman, Goung, Egal, Plandok, and Anak Sirka, lying between the Kampar and Indragiri rivers, on Sumatra, or Pulo Percha, as it is called by the Malays. Of least value is the produce of the islands of Buru, Ungah, and Kundor, in the Straits of Dryon or Salat Duri. The sago palm is found in several other places in small quantities, but is seldom cut down by the lazy possessors of it, to whom it probably descended through a long line of equally sluggish ancestors, from some *Inchi* of *zaman daulu*, who had better notions when he planted it. The nature of the soil in the places we have mentioned is very similar, all of them being deep bogs, next to impassable to one unaccustomed to such walking.

Cutting down and burning the jungle is all the preparation required previous to planting the palm, at about 5 fathoms apart, which is best done from the seed, a small black nut, about the size of a pullet's egg.

Plantations have been tried from the suckers, but the injury sustained by their roots in the separation from the parent stem has invariably retarded their growth above a year.

From seven to ten years is the time it takes for the tree to bear fruit, when planted from the seed in the first instance; the pith commences generally at about the age of 6 or 7

* From the Singapore Chronicle.

years; after this period, it gradually loses its moisture, and is no longer fit for sago when the tree comes into bearing.

Sago is cultivated in large patches, divided into lots the property of individuals, and as much as one man, his wife and family choose to look after—I say choose, because it is not as much as they *could* if they *would* attend. One man as above can manage 100 fathoms square, upon this he plants 400 seeds, and subsists himself for the first 6 or 7 years on his means, not unfrequently leaving the trees to take care of themselves, until he can commence cutting. From that day the supply is constant, each tree throws out from 10 to 20 suckers, which increase so rapidly that the owner is obliged to thin them constantly. A good tree yields from 40 to 50 tampins, and the worst ever cut down about 25; this is on Appong. The tampin of Appong is to that of Mandha as 4 is to 5. It is a rough measure made of the leaves of the sago tree of a conical form 20 to 30 inches long with a base of about 8 inches diameter, both ends of this are stuffed with the refuse pith to prevent the escape of the *farina*, and the tampin of Appong holds on an average 19 pounds avoirdupois—thus 7 tampin very nearly equal a picul of this place, or 13 $\frac{3}{4}$ lbs. avoirdupois.

It will be needless to speak of the sago of each place, differing but a little in quality, and in the measures they are sold by, as the acuteness of the Chinese brings them all to their true level on arrival here. One remark on the stupidity of the cultivators may be made, viz., that 100 tampins of Appong may always be purchased on the spot, cheap or dear at other places it matters not, for 6 1-4 reals—or Sp. Drs. 5. 12 as a Sp. Dr. or a Real is the same thing with them and both go alike for 246 doits or 82 cents of a Sp. Dr. of Singapore. If the person in quest of sago takes doits, they must be of the small kind, but thick. At Mandha, on the same principle the same number of tampins may be had for Sp. Drs. 9. 61. Now the Appong measure yields 14 piculs 29 catties, and the Mandha 17 piculs 86 catties, being a difference against Appong of Sp. Drs. 2. 51, and all because they say it has been the *adat* or custom to sell it so!

One person is sufficient to clear the underwood away as it grows up in every lot of 100 fathoms square. The whole family are however fully occupied when they cut down the trees for manufacture—which is always done on the spot where the tree is felled. They prepare the number of Tampins or measures required for the reception of the sago in the first instance, and put them out to dry; they then fell the tree, and

split it in halves by means of wedges, build a temporary house over it and dig out the pith with hoes made from the rind of the tree. They then carry the pith up into the house, the floor of which is latticed so close as just to allow the finer parts of the medulla to pass through on being wetted with water and trodden by the feet. Into this house the produce of two or three trees is brought at a time, and all the finer parts are carried down by the water into the trunks of the trees,* 3 or 4 feet in diameter which are cleanly hollowed out and left below to receive it. In order that no wastage may take place, they lead a mat, made also of the leaves of the palm, from the floor of the work shop down into the shells of the trees, and this carries the water without spilling any. They trample it until the water passes through clear of the farina, and then throw away the refuse, keeping sufficient merely to stuff the ends of the tampin. By the next day the medulla has settled in the trunks of the trees, leaving the water at the top; this is drawn off and the sago flour thrown in its wet state into the tampin already prepared, and left to strain itself—some refuse pith is then put on the end before left open, the base of the cone, and the work is done. The shell of the tree is then cut up for firewood or in slips and thrown into the marsh, to prevent the poor devils going quite over head in carrying down the sago to the boats waiting for it. This is always their duty, for if the Malays who come to purchase could not get this included in their agreement, the chances are they would go elsewhere in search of the sago. Sago once made is obliged to be kept wet or it would spoil in a few days; again, kept constantly wet the tampin leaves soon rot; cultivators cannot therefore keep a stock ready, but at a greater risk than these savages choose to undergo. They have a method of frying the meal over the fire called there *sago randang*, which sells for a real or 82 cents of a Sp. dollar, for 16 of their gantongs are equal to 20 of Singapore or one picul. This however will not keep long; as damp throws it all into a glutinous mass and in a short time spoils it, and it may easily be supposed that their situations are not very dry and airy! At Appong the sago is made by Orang Utan or people of the woods, who speak a jargon of Malay, are not Mahometans, and eat the hogs, deer, &c., with which their island abounds. The maritime Malays who visit them for sago, are obliged to be always upon their guard, and not unfrequently wait 2 months for a cargo of a few hundred tampin; if they take money to purchase they get it much quicker, but require additional caution in making advances. There

* A boat is often used.

are said to be about 350 souls, and that the produce might be put down at 3,000 piculs a year. Most of these people are dependants of Siak and Campar, the chiefs of the former place practising a system of extortion and rapine enough to induce any other class of people less accustomed to it, to desert the place.* The cultivators in the other places are Malays and much superior, though their exports are severally less, and trafficking with them is not so dangerous or uncertain.

Appong has 350 souls employed and could produce 3,000 piculs. This would afford under all the disadvantages at which they sell it, Sp. dollars 1,024 per annum, a sum quite adequate to the demands for foreign luxuries of people who do not eat rice, and live upon the produce of their woods. The people of Siak were the chief importers of sago into Malacca, whence erroneously it got the name of *Siak sago*—described as the best by Crawfurd. Siak itself exports no sago.

Malays all agree that the cultivation of sago is the most profitable of agricultural pursuits, not yielding even to the cultivation of rice by *Sawas*, for once in bearing the trees are ad infinitum equally profitable and require little or no labor.

The miserable state of barbarism in which the cultivators of sago exist, puts all calculation at defiance, but we do not hesitate in saying that if any person would commence here, and there are many places peculiarly favorable to it and of considerable extent, the profits of an English acre when the trees were once fit to cut would amount on a low estimate to 50 pounds sterling per annum after paying all expenses.

This too is a branch of agriculture that an European might engage in without the certainty of being robbed, which pertains to the culture of spices &c

The maritime Malays, who are almost the sole importers of sago, are enabled generally to realize from 80 to 120 per cent on their cargoes: they are seldom ten days at sea, and notwithstanding the occasional detentions and annoyances they experience in carrying on this traffic, must, with few exceptions, be well recompensed.

Allowing an absence of two months, in a boat of two coysans, and five men, bringing back four hundred tam-pin, they have a clear gain on their return cargo of 17 to 26 dollars according to the state of the market, giving each person a profit as wages, when sago is in demand, of two and a half Spanish Dollars per month, and putting aside 50 cents for

* We lately found two families on Battam; they had managed to make their escape.—J. R. L.

wear and tear of the boat, a sum quite adequate for this purpose—independent of the preference which people bred up to a sea faring life, generally give to it over all other modes of more profitable subsistence, and setting aside the chance of gain which they have on their cargoes imported into the sago districts.

It is curious to contemplate the *natural prices* fixed by the two classes who cultivate sago. From what we have before stated, it will appear that the rude inhabitants of Appong, by a calculation of their wages of labour and profits of stock, on a reduced scale compared with their more civilized and wealthier neighbours, the Malays of Mandha and other places, have contented themselves with an average rate, about 30 per cent less, evidently arising from their poverty and barbarous condition.

We have no data from which to compute the even probable time at which the sago tree was introduced into our vicinity; connections have existed for ages amongst the people of this part of the Archipelago, and the Eastern Islanders, which though not perhaps purely commercial, were yet sufficient to have brought this about, affording at once as it does, a livelihood and subsistence, without the possibility of a scarcity, requiring little labour beyond planting the seed, and of all others most easy of attainment and agreeable to the scale of Malayan industry.

The most satisfactory conclusion we can arrive at in the above speculation is, that when or how introduced it matters little, since it will be evident that of late years only it has acquired any consequence as an article of commerce. It has lain dormant from various causes, among the most evident of which appear to have been the want of purchasers from the grower, even Malays themselves of other parts being formerly afraid to visit them,—the attendant difficulty of getting it to a market, Malacca being the only one except Penang, which previous to the establishment of Singapore was at too great a distance, besides the risk of meeting Pirates on the voyage,—and again, the naturally slothful disposition of the cultivators which operated effectually in keeping down the produce, until of late years, when Singapore, in a great measure removing the above obstacles, has created a stimulus to exertion, more probably on the steady increase than the decline, great as the demand now is.

MANUFACTURE OF PEARL SAGO IN SINGAPORE BY CHINESE

The greater number of the Singapore manufactories are placed on the flat ground between the bases of Pearl's and Oo Long's hills and the winding and branching creeks and canals of the Singapore river, a situation admirably adapted for them, for the creeks bring the sago boats up to them in front and the hill supplies them from behind with an abundance of pure water. To procure a constant supply, wells are dug on the lower slope of the hill, and the water is led into the manufactories by a succession of wooden troughs having their bottoms lined with clay, and which are supported by cross sticks fastened at the place of contact by rattan. The essential features of every manufactory are, the landing place where the sago is taken from the boats, a rude shed where it is removed from the sago leaves in which it is enveloped, a second shed where it is purified, and the large house where it is formed into pearl sago. Besides the tables, furnaces, and bins required for the sago, the latter contains the beds, stools and dining tables of the workmen, and occasionally heaps of boxes. Hitherto it has been an attap shed roughly put together and often only partially closed at the sides. But some of the more wealthy manufacturers are now raising substantial edifices of brick and tile, and it is to be hoped will also introduce into their establishments a little attention to cleanliness and comfort. At present the mass of decomposing vegetable matter which surrounds the sheds produces a sour, disagreeable smell. The sago leaves and refuse accumulating in some places for the last 30 years, have there formed extensive beds, spongy at the top and solid below, six or seven feet in thickness.

The tampins having been placed in heaps in the shed, the first step is to open them, cast the contents on a plank frame about 12 feet square, surrounded by a rim rising about 2 inches from the surface. The sago, massed together by having remained compressed in the tampin, is here broken up by the common *chänkäl*.*

The raw sago having been thus made ready for the manufactory, the first process to which it is subjected is that of a thorough washing, without which it would remain impure and coloured. For this purpose strong tubs are employed, about 32 inches deep, 40 inches in diameter at the top and 6 inches more at the bottom; they are bound by three hoops each formed of about six thick rattans twisted together. A piece of

* A kind of hoe.

thin coarse cloth is fastened by its four corners over each tub when used, and hangs loosely into it. The moist sago being poured into this strainer, and there broken and bruized by the hand, is agitated until all its fine particles pass through the cloth and descend to the bottom of the tub, while the fragments of leaf, fibre and other impurities which remain in the cloth, are shaken into a round mass, which is taken up in a bowel and thrown aside. The rapidity and deftness with which this and all the other manipulations are performed are very striking. The sago is next stirred about with an oar for about an hour, after which it is left to stand for about 12 hours, when the water is ladled out, and the sago, which fills about half the tub, is removed to undergo the last purifying process which precedes the granulation. This is performed in a mode at once simple and ingenious, the same principle being availed of which serves the gold and tin miners of the Archipelago to clean the ore; the more precious matter happening, in all three cases, to be heavier than that with which it is mixed, and being thus readily separable by the action of running water.

Two tubs are placed at a distance of ten or twelve feet from each other, and connected by two troughs raised by a frame work above them. These troughs are about 10 inches deep, 14 inches broad at the top and 11 at the bottom, one end being closed, and the other open, but having grooves in its sides and bottom, like those of a sluice, into which a series of horizontal pieces of wood or sticks fit, each being about $\frac{3}{4}$ ths of an inch in thickness. The end of a piece of cloth of the breadth of the trough being placed over the groove at the bottom, the shortest of the sticks is pressed down upon it, and the cloth, thus fastened, is made to hang down over the edge of the trough into the tub below it. The tub at the other end now receives the sago to about two-thirds of its depth, when it is filled up nearly to the top with water. A man now stirs up a portion of the sago with an oar till the water obtains a milky appearance, when he proceeds to pour it into the troughs. To prevent its falling abruptly, an inclined piece of wood, eight inches broad, is fixed across the trough, so as to leave only a narrow slit between it and the end of the through. The water is poured on this, descends into the trough, and slowly flowing to the other end deposits a portion of the sago in its progress. The suspended cloth, becoming saturated, serves at once to maintain and equalize the overflow of the water into the tub below it. When the water is poured in, the first waves advance rapidly and carry away much of the sago, but those that suc-

ceed deposit the greater part of their more solid contents, transporting into the tub only the lighter fibrous particles which it is the object of this operation to separate from the farina, and by the time the man has performed a similar service at the other trough, and is ready to pour a fresh supply into the first, the water flowing down the cloth has lost its whiteness. This process is continued until the deposit rises nearly to the level of the stick, when the sago next to it, which generally contains some impure sediment, is taken up with the fingers and thrown into the tub. The second stick is now fixed above the first, a fold of the cloth being interposed between them to prevent any liquid sago escaping though the seam, and the operation goes on as before. When the milk in the upper tub begins to grow shallow, it is again filled up with water and more sago stirred up and mixed with it. During the interval and at other more prolonged interruptions the water in the troughs has sometimes time to deposit all its contents, the last being a fine fibrous matter which, if not removed, would leave a thin yellow layer. The surface is therefore washed with the hand until this layer is effaced and held in suspension. When the troughs have been gradually filled up in the manner described, by a succession of deposits, and the wall built up to the top by the last stick, the sago is left to consolidate for 12 or 14 hours. The farina which passes out of the troughs in the current is afterwards thrown into one of the tubs whose contents are to be washed and deposited in their turn, and some of it may even be destined to pass through the process many times before it sinks in the trough.

In order to give it the degree of dryness required, it is removed from the troughs and exposed for one day to the sun in lumps about a cubic foot in size, which are placed on tables standing in the open air. Large kajangs* are kept in readiness to cover it when a shower of rain falls. It is next carried to the large shed where it is thrown in a heap on a long table and broken down into a pulverulent state. It then passes through an oblong sieve, 30 inches by 20 inches, of which the bottom is formed of parallel fibres from the stem of the coconut leaf, kept in their positions by strings which cross them at distances of about 2 inches. The lumps which do not pass through the long interstices between the fibres are thrown back into the heap.

The granulation or *pearling* now takes place. The sifted sago is placed in a cloth of which the ends are tied to a long stick and which is kept expanded in a bag shape by a short

* Mats made of the leaf of the mangkwang.

cross stick. A horizontal vibratory motion is given to this, the whole mass being kept in constant agitation, and every part successively driven along the sides of the bag.* This lasts for about a minute, when the now granular sago is again passed through a sieve similar to the preceding one, but the smaller grains which pass through are those which are now rejected. Those that remain are transferred to a circular sieve, of which the bottom is formed of fine strips of bambu crossing each other. The grains that pass through the square holes thus produced form the pearl sago of commerce in the unroasted state. Those that are larger than the holes are thrown back into the heap to run through the same course again. To assist the men the oblong sieves and the granulating bag are sometimes suspended by rattans from the rafters of the shed.

The roasting takes place in a row of iron pans, each about 2½ feet in diameter, which are built into a platform of masonry about 15 feet long and 4 feet in breadth, covered with flat tiles. The pans rest in an inclined position partly against the back of the platform which rises about a foot above its level, and partly on a small prop of brick work on the right side, an offshoot from the wall. Into the top of this prop a plate is sunk in which a cloth saturated with wood oil† is kept. Behind each pan is an open furnace mouth, and a man constantly attends to the fires, keeping them supplied with a few billets of bakau wood, and regulating them with a long two pronged iron fork so as to maintain a moderate heat. The pan being gently rubbed with the cloth a man who sits in front of it on a low stool placed on the platform pours into it a quantity of granular sago. This he slowly stirs for a short time with a wooden implement called weah having a sharp curved edge. More sago is poured in until it amounts to about two chupas, when as it hardens he uses the weah more freely. After about three minutes roasting, it is removed to a table and passed through a round sieve similar to that before described. The grains that adhere to each other are thrown aside, and those that pass through form a smoking heap which is allowed to lie undisturbed for about 12 hours. The grains are about the same size as they were before roasting, and some retain wholly or partially their white and mealy appearance, but the greater part have become translucent and glutinous, and all have acquired a certain degree of toughness, although still soft.‡

* Some experience is required in drying the sago to the proper degree preparatory to granulation. If under dried or over dried it will not granulate.

† *Minia' Krueng.*

‡ This change appears to be brought about in this way. The water con-

The final process is another roasting, which renders them hard and tough, and greatly reduces their size. The pearl sago thus prepared and fit for exportation, is put away in large open bins ready to be transferred to boxes or bags when sold.

The method of making pearl sago which we have described appears to have undergone no improvement or change whatever since it was introduced into Singapore in 1819. One of the oldest manufacturers informs us that it was taught to the first Chinese who tried it here, by a woman who came from Bukit Batu, a place on the coast of Siak facing the large island of Bancelis, and famous for its great fishery of the *trubu*, the roe of which is so extensively used. We should rather have supposed that it was introduced into Singapore from Malacca, where manufactories had existed for many years before the establishment of Singapore. It is certain however that Malacca derived the art from Bukit Batu, where it originated about the beginning of this century. It was long kept secret, but in Singapore it appears almost from the first to have been conducted without any attempt at concealment.

From 20 to 30 men are employed in the larger manufactories, but if their labours were confined to the making of pearl sago, 16 men would suffice for a manufactory such as we have described above, and they would produce about 450 piculs per month. Their wages are, for the roasters and the man at the throughs 4 dollars, and for the other men 2½ to 3 dollars a month, and they receive their food besides. The original outlay is probably from 300 to 400 dollars. The profit of course varies greatly, and the business cannot be so certainly lucrative as has been sometimes supposed, since there have been instances of failures. There are at present fifteen Chinese manufactories in Singapore, and two have recently been commenced by Europeans. We doubt their being able to compete successfully with the Chinese, unless they can introduce a more perfect washing and granulating process, that adopted at present requiring so much labour, and being attended with so much waste, that unless the full work be got from the Chinese employed, there will be little room for profit. The Chinese method of preventing all loss of labour which they carry into most of their undertakings, is brought into the sago concerns also. One of the principal shareholders lives in the manufactory, and the best workmen have small shares in the profits besides their wages.

tained in the granules being heated first converts the mealy starch into a jelly and then escapes by evaporation, leaving the jelly tough. The second torrefaction drives out the remainder of the water.

THE TRADE IN SAGO.

We have seen that a large portion of the sago imported into Singapore is the produce of the marshes of Siac and Indragiri, the low island of Rantau containing the most extensive plantations. It is purchased in Siac from the Malays and Orang Sakai by Malays, chiefly of Siac and Singapore, who resort there in small boats for the purpose. In their hands its cost is enormously enhanced, the Sakai selling it to them at about 10 cents per picul, and they selling it to the Singapore manufacturers at from 70 cents to one dollar per picul.* The price obtained by the latter for pearl sago was at first 6 dollars per picul. The Singapore manufacturers having succeeded in improving its quality by a more careful manufacture, and the demand increasing for export to Europe, the price rose in 1821 to 7 dollars. This caused the establishment of several new manufactories towards the end of that year, which at once brought it down to 5½ to 6½ dollars. In 1825 the supply exceeded the demand, two of the principal manufactories, one of which had employed 55 men, were abandoned, and the price fell to 4 to 5 dollars. In 1826 it descended to 3½ dollars to 4 dollars and by 1831 it was 2¼ to 2½ dollars. In 1838 it was so low as dollar 1¼ to 1½. After this it rose again. In 1845 it was about 3 dollars. It is now about 2 dollars 65 cents, and has for several years remained between 2 and 3 dollars.

The importations during the earlier years of the Settlement were as follows :—

1819—	22 boats, quantity not ascertained.
1820—	5,684 piculs.
1821—	10,694
1822—	1,445
1823—	no imports.
1824—	11,669
1825—	25,612
1826—	21,666

* The plantations belong to Malays who employ the Sakai as serfs in planting them and preparing the sago, allowing them one half of the produce. On this and wild animals they subsist, and the sago which they do not require they dispose of to Malays in barter for cloth, tobacco &c. The Malays admit that by this mode of dealing the sago does not cost them much more than 10 cents per picul. This entirely agrees with the system adopted in their dealings with the Binua of Johore. (Jour. Ind. Arch. Vol. I.) The Malays at the Siak islands, and at the sago plantations between Kampar and Indragiri where they have no serfs, sell the sago on the spot at about 20 cents per pikul.

1826-27—17,768

1827-28—16,205

1828-29—15,818

The following tables, for which we are indebted to the hon'ble the Resident Councillor, will shew the state of the trade for the last 5 years as far as the records of the office of registry of exports and imports can be relied on, having been carefully prepared by the indefatigable Deputy Registrar, Mr Holloway. The average of the exports for that period is about 16,000 pikuls of sago flour and 21,000 pikuls of pearl sago, or a total annual export of 40,000 pikuls, of the value on the spot, at present prices, of 100,000 dollars :—

I. Imports of Sago during the official year, 1847-48.

RAW SAGO.

	1847-48	
	Piculs	Bundles
From Borneo.....	33,652½	279,954
„ Cochin-China.....	30	..
„ Sumatra.....	..	266,160
„ Java R. B. L. & Sambawa.....	..	300
„ Malacca & Pinang.....	..	2,250
„ Celebes.....	880	..
„ Other Islands & Places..	540	151,553
	35,102½	700,217

PEARL SAGO.

From other Islands & Places.	1,573
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II. Exports of Sago during the official years 1847-48.

	SAGO PEARL	SAGO FLOUR.
	Piculs	Piculs.
To Calcutta.....	1,595	..
„ Malacca and Pinang	1,256	13
„ New South Wales	758. 24	12. 63
„ United Kingdom	14,570. 71	37,577. 46
„ Malabar Coast ..	1,934	..
„ China	210	..

II. *Exports of Sago during the official years 1847-48.—Continued,*

	SAGO PEARL	SAGO FLOUR.
	<i>ciculs.</i>	<i>ticuls</i>
To Borneo	12	..
" Java, R. B. L. and Sumbawa ..	40	..
" Maulmain	31	..
" Other Islands and Places ..	4	5
" France ..	105 18	..
" North America ..	7 0	..
" Ceylon	132	22 50
" Coromandel Coast	1,507½	..
" Cape of Good Hope	127	..
" Bremen including Hamburg ..	3 805 47	195
" Manila	592 84	..
" Cochin China, ..	15	10
" Mauritius ..	30	..
" Denmark	1,212	268
" Malayan Peninsula	14	..
	28 721 94	38,103 59

III. *Imports of Sago during the last five official years.*

RAW SAGO.

	1842-43	1843-44	1844-45	1845-46	1846-47
	Bundles	Bundles	Bundles	Bundles	Pels
From Neigh. Islands.	16,430	24,450	45,122	114 728	..
" Borneo	134,500	19 380	337 900	183 400	..
" Sumatra ..	201,910	176 910	232,200	195 079	..
" Rhio .. ..	..	700	350	..	1,300
" E. C. Peninsula	..	..	1,150	5,300	..
" Celebes .. ..	..	..	..	..	..
" Malacca .. ..	..	..	..	..	..
	352,840	321,440	616 722	195,507	1,300
					535,352

PEARL SAGO.

	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs	Piculs	Piculs	Piculs	Piculs
From Pinang	100	..	..	..	..
" Malacca	50	..	..	..	..
" Neighbouring Islands	710	980	1,567	126	1,237½
" Borneo	555	640	400	..	1,100
" Rhio .. ..	..	..	..	..	280
	1,415	1,620	1,965	126	2,617½

IV. *Exports of Sago during the last five years.*

SAGO FLOUR:

	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs	Piculs	Piculs	Piculs	Piculs
To Pinang	20	..	..	10	..
„ Great Britain	3,813	13,697	3,401	23,765	8,985 08
„ Mauritius	12	..	..	7	10
„ Foreign Europe	578	370	150	135	..
„ China .....	..	..	2,000	49	..
„ Malacca .....	..	..	6	38	..
„ Manila .....	..	..	..	50	..
„ Java .....	..	..	..	445	30
„ Calcutta .....	..	..	..	18	..
	4,423	14,067	5,556	24,517	9,025 08

PEARL SAGO.

	1842-43	1843-44	1844-45	1845-46	1846-47
	Piculs	Piculs	Piculs	Piculs	Piculs
To Pinang	415	439	81	206	766
„ Calcutta	311	1,065	1 198	2,170	2,021 71
„ Great Britain	18,658	8,641	8,563	12,460	30,732 18
„ Mauritius ..	439	117	307	345	70
„ Manila	337	110	415	249	538
„ Foreign Europe	2,713	2,213	4,016	2,784	2,960 21
„ United States	696	..	370	251	476 36
„ China	243	605	219	459	629
„ Java	954	123	27	62	5
„ Madras	160	200	175	535	635
„ Ceylon	11	25	50	155½	133
„ Bombay	144	189	954	105	807.74
„ Malacca	20	..	26	7	35
„ Siam	200	..	..	..	227
„ Cochin China .....	..	100	..	..	45
„ East Coast Peninsula ..	..	..	5	..	10
„ Arabia .....	..	..	17	..	..
„ Neighbouring Islands ..	..	..	5	..	..
„ Rangoon .....	..	..	..	20	..
„ New South Wales ..	..	..	..	..	620 66
„ Cape of Good Hope ..	..	..	..	..	53
	25,306	13,827	16,428	19,75 8½	40,754.86

RAW SAGO.

					bundles
To Borneo .....	..	..	..	..	100

Low as the price of sago has fallen, we need hardly point out, after all the data which we have placed before our readers, that it is still much above its natural amount. It is not an article which can ever displace the cereals, or which we could wish to be anywhere substituted for them, but it ought to be produced in an exportable state at such a price as to be within reach of the poorer classes, whenever a diminution in the supplies of rice or corn deprives them of a sufficient quantity of their ordinary food. This could easily be accomplished by Europeans possessed of a little mechanical skill, who would combine manufactories and plantations, and thus save the present enormous waste of labour and raw material. 25 cents per picul seems to be about the natural price of sago flour properly prepared at the plantation for exportation, and this is nearly equivalent to 10 pounds for a penny. We have seen that at present the poor Sakai get only about a half-penny for that quantity.

Singapore itself is well adapted for sago. There are considerable tracts of marshy land, at present lying waste, in all of which sago would grow well, for it is in the very same kind of soil that it flourishes in the neighbouring islands along the Sumatra coast. Arrow and other roots yielding starch are now cultivated with profit, and as one manufactory will serve for the preparation of all the varieties of farina, it would be found advantageous to unite the culture of these roots with that of sago. As all the marshy vallies in the island are bounded by low hill ranges, tracts of land adapted for the purpose could readily be selected.

J. R. L.

*Note on the mode of growth and productiveness
of the sago tree.*

The notices in the above paper of the mode in which the sago tree extends itself not being so definite as could be desired, we visited three groups of sago, one on a moist clay soil at the foot of Syed Ally's hill, and the others in a soft vegetable soil behind the village of Kallang. The first is a dense, impenetrable thicket of sago plants, each of which rises directly from the ground. Three stems ascend above the mass of leaves, a few younger plants send up leaves about 15 feet high from stoles about a foot in breadth, and the whole space between them is filled with younger shoots as close to each other as they can grow. The Kallang trees present a differ-

ent aspect, owing to the soft, loose soil. The largest of the two groups is evidently of considerable age, and is in reality one connected tree. From a central point six thick roots spring which spread along the ground in different directions to the distance of 6 to 8 feet, when they bend upwards and rise into trees. From these trunk-like roots numerous rootlets descend into the soil, while large branch roots strike out laterally from which other trees rise. At present there are 4 large stems, and 14 young trees of different sizes rising between them and sending up lofty leaves, but without any stem. Around the stole of each of these a great number of shoots are constantly springing, each capable of becoming a tree if it had room. The hollow bases of some trunks which have been cut down are seen. The growing stems are about 16 inches in diameter and covered with moss and small ferns. About the middle of the space covered by this multiplex tree no shoots rise, the oldest parts of the roots appearing to lose their productive power.

The other tree is younger, the large roots having only extended 3 or 4 feet from the centre and still preserving their full vigour throughout, for while each has a tree rising from its extremity, a thick growth of shoots extends along both its sides.

Forrest states the average produce of a Molucca tree to be 336 pounds, but Rumphius makes it from 600 to 800 pounds, and according to the writer in the *Singapore Chronicle*, who seems to have paid great attention to the subject, good Sumatra trees yield from 760 to 950 pounds, and the very worst 475. Perhaps therefore 700 pounds may be assumed as an average for the Sumatra trees, which at 10 feet apart (the distance stated by Forrest and followed by Crawford) would give about 300,000 pounds for the harvest from one acre, and, allowing that the harvests are 15 years apart, and not 7 as Forrest assumes, this will give an annual average produce of about 20,000 pounds. We believe however that 5 or 6 feet is about the average distance of the large stems in the Sumatra forests. When a plantation has once arrived at maturity there will be a constant harvest, because the natural mode of growth secures a continual succession of new plants from the time those first planted have begun to extend their roots, and this succession can be regulated by the knife in any way the planter desires. The sago tree when cut down and the top severed from it, is a cylinder about 20 inches in diameter and 15 to 20 feet in height. If we assume 20 in. by 15 ft. to be an average size, the contents will be nearly 26 bushels, and allowing one half for woody fibre, there will remain 13 bushels of starch, which agrees very closely with our previous calculation, 700 pounds being equivalent to 12½ bushels. It may give some idea of the enormous rate of this

produce, if it be considered that three trees yield more nutritive matter than an acre of wheat, and six trees more than an acre of potatoes. An acre of sago, if cut down at one harvest, will yield 5,220 bushels or as much as 163 acres of wheat, so that, according as we allow 7 or 15 years for the growth of a tree, an acre of sago is equal in annual produce to 23 or 10 acres of wheat.

MISCELLANEOUS NOTICES, &c.

CASTING OF A BELL IN BURMAH.*

THE district of Thayagon, on the site of the late fire, presented a most animated scene on Thursday last, occasioned by the casting of a large bell, seven feet high and four and a half feet in circumference, which is to be placed on the pagoda hill. As the Burmese method of casting bells may, perhaps, be unknown to most of our local and foreign readers, and may be interesting, we shall endeavor to give a description of what we witnessed. On approaching the ground, on which was assembled a dense crowd of people of all nations, principally Burmans, who had collected to witness this novel exhibition, the first thing that met our eye was the bell mould itself, placed in a circular cavity in the ground, in a thick frame made of wood, and filled up with a thick coating of earth, mud, and bricks to retain the heat. About thirty feet from it was a shed, a hundred feet long by thirty wide, in which we counted forty furnaces, all containing crucibles holding about twenty pounds of metal each. These furnaces were supplied with fuel from a large heap of charcoal, which although continually diminishing was still kept up by voluntary donations. The bright flames of the fires that sent up their myriad sparks and leaped up in variegated colours of green, purple, yellow, and red,—from the different kinds of metal that each contained,—were kept alive by a row of bellows, of all forms and shapes—from the fierce blast of the English leather-sides to the asthmatic puff of the Chinese wind-box—which were all worked with a will that betokened the labor to be one of pleasure. Delicate females in gaudy dresses, jewelled, and *thenaküed*; old women wrinkled and begrimed with charcoal; young men and boys in holiday attire and happy faces; all shouting, singing, and working away at the bellows with delight, until nearly exhausted, when their places were filled by others who were but too happy to have the honor of distinguishing themselves in the service of Gaudama. An uninterrupted stream of men, women, and children, each with an offering either of gold, silver, copper or precious stones, were continually feeding the crucibles by casting in their gifts, and

* From the Maulmaia Chronicle, 17th March 1849.

THE
JOURNAL
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THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

A TRANSLATION OF THE KEDDAH ANNALS.*

By Lieut.-Col. JAMES LOW, C. M. R. A. S & M. A. S. B.

CHAPTER IX.

ONE day the four mantris assembled in council, and resolved to write a letter in their names and in the name of the queen of Raja Bersiyong to the central country (binua) of Siam, to intimate that there was no Raja then ruling in Kedda; and to *request that a Raja might be sought for and vouchsafed for governing Kedda through them the mantris.*

Envoys accordingly proceeded to Siam with a letter to the above effect.

Now it is related that when Raja Bersiyong had escaped and got clear of the forest with the loss of all his arms, he arrived after some time at the hut of a peasant who had a clearance in the forest on the confines of Patani and Kedda; and who there cultivated the betel vine and rice. Of his own accord Raja Bersiyong worn out as he was by hunger and fear, craved permission of the peasant to let him become an inmate of his house, and offering at the same time to

* Continued from page 270.

assist him in his agricultural labors. The peasant consented, but without knowing the rank of the applicant, for the Raja's tusks were at this time on a *level with his other teeth*, [our author should have here observed that they were never seen of a greater length, so that the existence of tusks was a mere conjecture and fable, if common sense did not convince him.] So Bersiyong set to work in the farm without any further instructions and was only called for daily by the peasant to receive his meals; after which he worked until the evening. All the profits arising from his labour he gave up to the man and his wife.

Now this peasant had a daughter by the wife who then lived with him, and she was so lovely and graceful that no one could look upon her without falling in love with her. Her neck was slender and graceful, her complexion white mixed with yellow, and her teeth were like the *black* and polished wings of the elephant beetle, her waist was delicate and slender, and her ankles were like stalks of paddie. Her like could nowhere be found. Her lineage was that of the Beapari [fairies] and her father was a Raja of inferior note. He was offended with his people and had left them to live with his wife and daughter in the forest at the source of the Kedda river (the Muda). So the pair went to a distance from the crowd to cultivate rice thus far up the Kedda river. It so happened that as the man and his wife were often absent at their grain field, the daughter had to supply the Raja with his meals, and thus these two were left at home to cultivate and water the betel vines and other fruit trees. The Raja thus became enamoured of the girl, while she reciprocated his love. So she became his wife without the knowledge of her parents. But after seven months they naturally became aware of the fact. Her father then said to his wife, that he thought it just as well that the girl had selected the stranger, because he was very useful and attentive in his household, and his manners were excellent. His wife remained silent. In time Bersiyong's wife had a son who greatly resembled his father, and it was brought up as if it had been a peasants child.

Unluckily for Bersiyong he was seen by some one who knew him, and when the circumstance was reported to the four ministers they despatched a hundred men with orders to seize the Raja, and to put him to death if he should resist. When Raja Bersiyong saw the party approaching he threw down his spade, and fled into a thicket of the bambu called buluh bittong. The pursuers surrounded the brake but could not find the Raja. Now none of them were aware of the marriage

of the Raja there, and of his having got a son. So they all returned and reported their want of success to the four ministers. Meanwhile the son of Bersiyong grew apace, and increased in comeliness and quickness of apprehension.

The letter of the four mantris and the queen was delivered in due form to the Raja of Siam. The Raja gave it to a mantri to read, who having opened it, read as follows.

This letter is from your majesty's very humble slaves the four mantris, and also the queen, of the country of Kedda, in order to make known the state in which Kedda rests at present. It has had no legitimate Raja for a long while, the only rulers being your slaves, the four ministers. We therefore beseech your royal Majesty, to release us from our present charge, by raising to the government a Raja of pure descent, so that all of us, slaves, may obtain a Raja or ruler, and that the country may be well governed. These observations your slaves submit to your majesty.

The Raja of Siam having heard the letter thus read, addressed an old mantri. Go my brother, said he, and call all the clever astrologers. When they came into the presence the Raja said to him, inspect the horoscope, and discover where a Raja of Kedda is to be found, and who the person is who is to be raised by me to the vacant Rajaship of Kedda. The astrologers opened accordingly their book, and inspected it, then they raised their heads. Well, said the Raja, what is the result? O *Shah i alim* replied the diviner, the person who should become the Raja of Kedda is living in that country. He alone must be Raja, no one else in or out of Kedda should be raised to that dignity for he is of true lineage, and should any other person be placed in that government, then undoubtedly he would not be able to retain it for more than a year or two at the utmost; either through death or some great convulsion or disturbance, he would be deprived of it. If such be the case, rejoined the Raja, pray how am I to know where to find him? The astrologers again looked at their *paper* or book, and having inspected it as before, said to the Raja, the person is in existence, and his age is about six or seven years. But whoever shall be made Raja, he must be first discovered by the intelligence not of man but of animals. There is a supernaturally intelligent elephant on the confines of Kedda and Patani, named Kamala Jauhari, which is perhaps able to inform us who shall be the Kedda Raja. So he inquired of the Kedda envoys if they knew any thing about it. They replied that it was wandering alternately in Kedda and Patani, and that it would discover itself by causing some one to dream. The Raja of Siam

then sent a letter back by the Kedda envoys to this effect, that the four ministers there should gaily caparison the elephant Kamala Jauhari, and send her in quest of a new Raja, namely the person possessed of a fitting title, to be raised to that dignity, since that very person he found, would be installed; and further that when found, his majesty of Siam would direct his mantris of rank to proceed to Kedda and instal the new Raja in his office. The Siamese Rajah's letter was delivered to the four Kedda chiefs by the envoys on their return, the former being at the time in full durbar or assembly.

Being much gratified by the contents of the letter, the four mantris concerted with the queen, and then the great audience chamber was adorned with curtains, and veils, and hangings, and various kinds of hanging lamps, and candles and lanterns, so that night was changed into day, and all sorts of rare sports and exhibitions added to the lustre of the fete. Then all the people held a fast for seven days, and nights, previous to the setting out of the party in search of a Raja. On the night of the seventh day the dupa and incense were burned and all sorts of perfumes were diffused around, and at the same time, the name of the superintelligent elephant was invoked to attend upon the four mantris. Immediately almost there was a sound like the rushing of a coming tempest, from the *east*, with earthquake, agitations, and terrific sounds. In the midst of all this uproar the terrified spectators were delighted to see Kamala Jauhari standing at the hiall, and thrusting up her trunk into it. The four mantris instantly rubbed her with cosmetics and bathed her with lime juice, while others applied cosmetics and sweet smelling oils rubbing these over its whole body. Then a meal was served up to it, and put into its mouth. The state howdah was now placed on its back, along with all its appurtenances, curtains, and hanging. Then one of the mantris read the Raja of Siam's letter close to the ear of Kamala Jauhari, acquainting her that she was expected to assist in finding out a Raja for Kedda by all means. When Jauhari heard all this she bowed her head and played her trunk; and then set forth in the direction of the east, followed and attended by from three to four hundred men, having banners and flags streaming in the wind, and being supplied with all necessaries and armed with various kinds of spears, held in hand.

The cavalcade so led, soon reached the garden and house where Raja Bersiyong had concealed himself. Now the boy,

the son of Bersiyong was in the house at the time, but his mother was in the betel garden ; and her parents were in the rice field. So Kamala Jauhari thrust her trunk into the house to take out the boy, and he seeing this movement and being loosely clothed quickly wrapped around his loins the cloth of forty cubits in length which had belonged to his father. Jauhari then encircled him with her trunk, and placed him on her back in the howdah, and forthwith began to retrace her steps. The boy's mother who had hidden herself through fear, no sooner found him gone, than she followed the foot-marks of the elephant, and she was kept on the right track by finding, here and there a piece of cloth, part of that long wrapper of her husband, which her son was tearing up for the purpose of thus pointing out to her the way.

The party returned safe, and were received amidst loud rejoicings. The mantris had the boy dressed quickly in royal robes ; and they put on his head a crown of gold set with precious stones, such as great Rajas were wont to appear in, all which much improved his otherwise handsome features and person. Then the mantris placed him in the seat formerly used by Raja Bersiyong. Then all the ministers and officers of state, and the whole people great and small, made obeisance to the young Raja, saying—Prosperity to your highness, may it ever be on the increase, may no accident interrupt the happy tenor of your highness's life, but may your graceful manners continue to improve, and your countenance ever beam with happiness. Now all present were quite surprised at the readiness with which the boy assumed courtly manners, it seemed as if he had been accustomed to hold his court there. The mantris after this took hold of the boy's hands, two on each side of him, and led him to the apartment of the putri, Raja Bersiyong's consort, who was delighted to find him so like Raja Bersiyong, but when she and her attendants saw the cloth, part of which he still retained, on his person, which Bersiyong used to wear, than they could not contain their joy. She then on finding that the boy's mother had followed him, sent out some of her women to look for her. They found her below a large banyan tree close to the fort gate. The maid carried her to the queen, who said, come here my sister and sit near me, and tell me if this boy be your son. Replying affirmatively every attention and respect was paid to her. So the queen instructed the youth in all the duties and behaviour required of him in his exalted station. The mantris also took him to the council, and to the audience chamber to learn how to govern. And when the youth had grown up one of the old mantris

out of his great regard for the youth, gave to him in marriage, his daughter, a lovely girl, for this mantri was the son of an inferior Raja, and descended from one of the four mantris who had originally gone to Siam to form a new country of *Tiga Buah* or *three parts* and also to Perak and Patani, in short descended from the mantris of Marong Mahawangsa. [14]

NOTES.

[14] Were a Malayan subject of any Malayan country of the present day to write a history and comment on it as our author does on the actions of its princes he would mostly likely be slain. Hence after the conversion to Islamism we have hardly any thing more but a meagre list of the Kedda chiefs or Rajas. The four ministers of the Rajas appear to have had little influence until the acts of the latter had become so tyrannical that they were forced to rule with an outraged people. In the states of Perak and Achin the ministers have generally usurped all real power, and have left the Rajas in possession of an empty title, one however to which owing to their clannish feelings, the Malays will always pay respect. "It is not" observes the Malacca native annalist, "the *custom* "for Malays to commit treason"

A Malay living under European rule often considers that oppression, which under the sway of a native chief he would cheerfully submit to.

Our author delights in bringing guns into the field, but long, I suspect, before they were known to the people of this coast I will advert to this further on. The Gundang Raja or great drum is yet in use at the palaces of Malayan Rajas, and is to be found, but of a lesser size, at all the mosques where it is beaten on Fridays. It is part of a tree hollowed out with one end covered by a dried buffalo hide.

The sham fight here described was got up by the chiefs or ministers, who might just as well have marched into the fort at once. It was to save appearances of treason on the one hand and pusillanimity in a Raja on the other. The maids of honor to the princess were as in more civilized regions the wives and daughters of the Aristocracy.

Raja Bersiyong would not have been content with "setting the Thames on fire" for our author says that when dressed and accouttered for the fight he looked as if he "would set the *universe* on fire." The parallelism of the two ideas is however curious. The intercourse of Kedda with India gave him his cashmere shawl, and perhaps other portions of his dress.

I extract from the "Malayan annals" a description of a fashionably attired man of rank. "He had anklets of gold called *koronchong* or hollow bracelets of gold, ornamented with silver.

Petam Ponto, which were armlets shaped like a snake in its hole ready to dart at its victim and set with jems. The less wealthy used a baser metal, or merely a blue glass ring, like those worn by the women of India at this day. Before the Raja, there was borne the gongam or golden casket, containing his betel mixture &c."

He is a description from the same work, of the dress of a Malayan exquisite of rank of the thirteenth century. He wore a sagara gunong with bees flowered on the wing. A green flowered vest and bracelets (of gold) on his arms. He carried in his hand a nosegay composed of the saman rasa wali and champaka flowers, and he was perfumed with a scented flour. His teeth were *white* as the bunga sri gading, or ivory flower, and his cheek was red like the catera leaf.

It would be difficult to find a Malay in these days with either white teeth or rosy cheeks. Neither staining of the teeth, therefore, nor the use of the betel mixture as it is now used, would seem to have then been in *fashion* during Sultan Mahomed's reign in Malacca, and the teeth of a skull of the earlier period of Kedda found by me in the ruins of a mausoleum of note were neither filed nor stained. The Bindahara or Commander-in-Chief wore a bunch of flowers in his hair, and he had a coat with long sleeves, made from four cubits of cloth, (six yards if the cubit was a short one and eight to twelve feet if a long one). He used to change his dress four or five times during the day, employing a *mirror as tall as himself*, and while dressing he used to ask his wife to tell him how his dress became him. He had a number of turbans always lying ready rolled out to be put on. Moreover this military fop "used the exercise of the *swing*."

Sultan Mahomed wrote to the Kling country or the Coromandel Coast for forty webs of different sorts of chintz, each sort to have forty different kinds of flowering.

The Malays of the present day dress very variously, but almost all of them are distinguished by the sarong, a piece of chequered cotton or silk cloth joined together at the ends; and being passed over the head, it is then fastened round the waist, with the skirts descending half way down the calf of the leg, or crossed over the body like the highlanders plaid. The Bencoolen Malays appear to dress with more taste than most of the other tribes.

In the Sanscrit and Hindu inscriptions of Bakergang in Bengal 120 miles east of Calcutta which refers to the numerous battles of the prince no mention is made of fire arms. Bows, arrows, and swords only are named. This was about A. D. 1136, and the same omission was in a Sanscrit inscription at Kaira in Gujerat, but of doubtful state [¹] As to mirrors they must have been brought by the Arabs, and were probably of Venetian manufacture.

It appears that Kedda was now left for some years without a head. It was so for seven years if we are to be guided by the age

[¹] J. A. S. B.

of Raja Bersiyong's son when he was raised to the seat of authority. But after all the fuss which was made about this Raja's tusks they never protruded beyond his lips. The four chiefs governed during that period with the advice seemingly of the Queen's mother as she was consulted when the letter was written to Siam. The term applied to the wife of the Raja, is Raja perampuan, literally female Raja. When the Raja is independent it was Queen Regent. The Siamese have from a remote period employed Brahmans for astrological purposes and to inspect the horoscope.

It may be proper to remark here that where our author puts Persian or Arabic expressions into the mouths of his interlocutors, we must, I think, give to him the sole credit of them, at least until the period of the conversion of the people to Islamism. Raja Bersiyong disappeared and was never again heard of, at least our author never again mentions him as if alive. Hence whenever at this day the outline of any old fort exists on this coast, and the Malays are asked about its origin, they at once assign it to the above Raja. We find Siam now called Tiga Buah Nigri—the three countries, meaning, I suppose upper, central, and lower Siam.

CHAPTER X.

It is related that there was a Rájá named Kalana Hetam, who resided in a small island called Pulo Ayer Tawar, or "*the island of the fresh water*"—because it was surrounded by a lake of fresh water.* The situation of this island is to the east of the country of Kalungi. Now this country of Kalungi would not submit to the sway of the south, or Siam, nor would the latter acknowledge its superiority. Accordingly he [the Rájá of Kalungi doubtless] began to assemble a body of men from many different tribes, such as the Samang, the Bila, otherwise *Hill Bila* and *Ryots*, and the Hill Ryots. He gave titles to all the chiefs of these tribes, and ordered them to assemble around the lake with their respective forces. There were present Máhá Rájá Dar ul Alum, who commanded the Samangs, and Máhá Rájá Dar ul Salam, who had command of the Bila. Then the Captain of the Hill Ryots was named Dar ul Gunong, and the chief of the Sakai tribe he named Máhá Rájá Jakjakoocha Rájá.

* I am not aware of any lake being in that direction, although I travelled up to the mountains, the barrier towards Siam. There is on the map a small lake not named with a town called *Gaangrue* marked down. I passed up the river leading to it from Kret stockade, but was brought up by rapids. There may be a lake perhaps, or an island of the Martaban river may have been meant.

All being thus ready, the Rájá Kalana Hetam sent for these four warriors, and said that he wished to go in search of some more eligible spot to reside in than his present one. Máhá Rájá Dar ul Alum represented thus—Some people belonging to your slave have lately come back from the direction of S. S. E. where there is a country called Keddá having a very fertile soil, and which is defended by a fort with a ditch. It has no Rájá at this moment. It is my opinion, therefore, that it will be very advisable that your highness should take possession of this region and become its Rájá, for it is very populous. Yes, replied Kalana, provided there be the means. If there are any old chiefs or mantris in Keddá I can write a letter to them in the first instance to ask them to join in letting me be its Rájá. Your slave, said Máhá Rájá Dar ul Gunong, respectfully submits, that if you really desire to govern Keddá, your highness should at once proceed there, what use is there in sending notice beforehand? If the Keddá people will not have you, we can take the country by force. Have no apprehensions on that score—what signifies it to us what their fighting salient population may be? My opinion said Jakjakoocha Rájá is that we should march our forces at once on Keddá; and then if successful, that we should send for all our families and people and property. So the force was got ready and properly armed. There were fire arms and all the men had swords, pikes, lances, shields of different sizes and forms, joepan swords, bows and arrows, and poisoned arrows blown through tubes, and slings, with stones to cast forth from them. The expedition was thus equipped and ready to march in the space of a month, and then set out with Kalana Hetam at its head, like the foam crested waves of the sea. The numbers were so great of these four tribes, that it took a month to accomplish an ordinary days march. The high ground became level, and the level was converted into holes like game traps, so heavy was the tread of the ranks.

In the first place.—It was not long after the departure of the Keddá envoys from Siam and their arrival again at Keddá, that the Rájá of Siam directed one of his old ministers, named *Kalahom*, who had been employed in settling the countries to the east [of Siam perhaps] to proceed to Keddá to search for a legitimate Rájá to govern it. The envoy was escorted by a number of Rájás and followers, and he was the bearer also of a written scroll, containing the titles to be bestowed upon the new Rájá, and he was in-

structed to consult with the four Keddá mantris, and to be guided as far as practicable by their wishes. The envoy then left for Keddá, and by how many tens of thousands of armed men was he attended, and how many mountains did he cross, and plains and forests did he pass over? The march too was enlivened by all sorts of field sports. Whenever he halted, his men erected temporary huts and shelter for themselves and the chiefs.

One day the whole cavalcade debouched from the forest into a plain to the *westward of the country of Ligor*. Kalahom soon perceived an armed force on its march there, rolling on like waves of the sea, so he directed people to go and inquire from whence this body had come, where it was proceeding to, what its leader's name was; and what the title of his Rájá. The messenger set forward and met with the force of Šakei under Jakjakucha. When the Sakai heard these questions they gave the information required, while Kalahom's party acquainted them, in reply to similar questions, who he was, and the intent of his march.

When Kalahom learned the nature and destination of the opposite force, he ordered the gongs and drums to be beaten, and having halted, he ordered to be constructed the usual temporary shelter for his troops. The Sakai General did the same, so that both bodies were encamped opposite to and in sight of each other. Kalana Hetam was much surprised to see his advance come to a halt, at such an early hour in the morning, but when he heard the name of the Siamese General *Kalahom* he directed a halt of all his forces. Kalahom then sent off an express to Siam to report the occurrence, and to inform the Rájá that he was going to fight the enemy *below* the country of Ligor.

The messenger travelled with all speed towards Siam, he stopped not by day nor by night. Kalahom then sent a letter to Kalana Hetam to direct him to return to his own country and not to go on to Keddá, because that country had a Rájá already, and as he, Kalahom, was by order of the Rájá of Siam now proceeding to Keddá to instal the new Rájá and confer upon him his proper titles.

The messenger found the opposite party inclosed by a square intrenchment of mud or earth, with proper guards at the four corners or angles, all ready posted, and on presenting themselves at the gate, were soon called before Kalana Hetam. Having squatted down and saluted him, and after having been asked what was their business, they delivered Kalahom's message. When Kalana Hetam heard

the order to return home he became enraged, and his face grew red like the colour of the boonga rayá ⁽¹⁾ while he exclaimed.—In what game have I ever been foiled? and in what battle have I ever been worsted? or in what day of battle and slaughtering have I ever turned my back on thy master Kalahom? It is not right, is it, that I should be Rájá of Keddá? If I cannot become its Rájá by fair means, I will do so at the *point of my weapons*. I cannot for a moment think of retracing my march, for it would be an unusual proceeding and unworthy of one born of a man to shew his back; on the contrary I must go forward. Tell then thy chief that if he shall attempt to stop, and intercept us on this our march to Keddá, let him come forth on the plain and give battle, and try us, and see how we can thrust and stab. Whether thy master may chuse to-morrow or to-day, is immaterial to us, he may please himself, we shall be ready to receive him, for we have come for the sole purpose of seeking occasions for fighting and proving the strength of our arms.

Kalahom could hardly repress his indignation at the insolence of Kalana Hetam. But as his force was too small to allow him to accept the challenge, he forthwith entrenched himself, and at the same time sent orders to the *Rájás of the several provinces nearest to him*, to collect their contingents with all speed and join him, which was accomplished. He then directed Phrā Ong Surin, who was the son of a Rájá, to assume charge of the force and at certain hours of the night to send out patroles, and to proceed round the fort, making a loud noise, by shouting and beating of gongs, drums, and other noisy instruments. The circuit having thus been nightly thrice performed, the patroles stopped at a certain place where Phra Surin rested on a high seat. Kalana Hetam hearing the noisy invitation to try his strength with Kalahom, imitated his example, and the uproar was astounding. It ceased not until the Lady Queen Shulrin had retired to repose in her palace in the west, and the king of the world seated on his throne had given audience on the edge of the horizon. Then poured forth the hosts of both Generals on the plain, where each formed his line.

Kalahom first directed Phra Ong Surin to arrange the order of battle. So he placed in their proper positions all the Rájás, champions, chiefs and warriors; classed under

(1) Hibiscus rosa sinensis—L. Hibiscus maivaraea Bat. Trans. vol. V. (Marad. Dicy p. 144)

the name of *jigur rjungi* (a). Phra Ong Surin had charge of the right wing, and Phra Ong Koorsir of the left, while Rájá Angkonerat commanded the center or main body. The rear was under Phra Ong Wa Tang Ta Kalana Hetam drew up his army thus—Máhá Rájá Dar ul Alum commanded the right wing, and Máhá Rájá Dar ul Gun-ong, with Kalana Hetam and all the champions held the main body or center. Máhá Rájá Jakjakoocha Rájá had charge of the rear [tail.]

Then was heard the loud defiance from both sides, while the opposing lines, with clashing of arms, rushed to the charge. Man encountered man, and weapons rung upon weapons, like the claws of *fighting scorpions*. The main body fought thus so closely that the rear lines of each force came in contact also. Neither party would give way, but waved backwards and forwards, whirling round and round, slashing and cutting, and mixing confusedly in fight, while the clash of arms was loud and terrible. The cowardly were also heard plaining and screaming like the *riyan* (b). Such was the tumult caused by the shock of battle, when the champions encountered, that it resembled thunder and a tempest, and when joined to the roar of the elephants and the neighing of horses, and the beating of war drums resembled the noise of waves lashing against the rocks. What quantities of broken arms strewed the plain after this onset.

Clouds of dust also arose and converted day into night. The ensigns of the contending parties were observed, while the standards shone conspicuously. Now beneath that or an umbrella (c) was a short man encased in an iron chain coat of mail, who was amusing himself by exhibiting Burmese warlike gestures [a practice common to Peguers.] He was elevated on a sora [some fabulous animal,] and filled with consternation all those who beheld him. This chief was the Girgassi Rájá Sang Wira Angkara. He had three brothers in the fight. One was tall and stout, and he rode on a Walmana [this is a fabulous animal said to resemble an elephant with tusks and a proboscis, with the feet and body of a horse and having wings, he has scales according to some like armour] endowed with preternatural faculties. He was armed with a *badamkel* and was frightful to look on. He was named Phra Sang Dati Kosa. The next one

(a) *Jiglo junge*, are Persian words, *jigur* liver, *anger*, hope, *jungi* warlike.

(b) *Ciada*.

(c) A Hindu weapon.

rode on a flying camel and grasped the preternatural chakra (*d*) along with his other war accoutrements. His name was Phra Sang Chi Sim. Then came the last brother who bestrode a fierce lion, and bore in his hand the preternatural bow and arrows. His name was Phra Sang Mang So Pia (*e*). When these mighty warriors appeared on the field of battle the contending armies of one accord suspended the contest and sent to inquire who they were, and who was their Rájás, and from whence they had come. They replied, "We are commanders of the forces of the Girgassi Rájá who have come here by orders of the king of Siam to aid his General Kalahom, and to seize the chief of the enemy and take them as prisoners to Siam."

When this reply had been reported, then the *Girgassi* Sang Wira Angkara directed all his forces to rush on those of Kalana Hetam, and not to turn to the right or to the left. So they turned the position of Kalana and took him in the rear. But he divided his forces into two columns or lines, directing one to contend in front, the other to oppose this attack on his rear. Thus Kalana's force was placed in jeopardy. Again the battle raged amidst clouds of dust. Forty war umbrellas were thrown down by the crowd of combatants, and were destroyed in the rush against Kalana's line, while the standards streamed out. Dire was the shock when they reached the enemy who were thus hemmed in by the Siamese forces. But still they kept their ground, nor did any one turn his head. Now many of this Kalana Hetam's men were invulnerable to steel, because they were tattooed with black (figures) over their bodies (*f*). They were also very obstinate and brave.

When Máhá Rájá Dar ul Alum and Dar ul Salam observed this condition of affairs they got enraged and plunged amidst the Girgassis without caring for consequences. Heaps of Girgassi now lay on the ground weltering in blood, which was flowing here and there, floating away even the bodies of the dead.

Now the troops of Phra Ong Surin and Rájá Phra Ong Kurin being exhausted gave way, and were pressed hard by the men of Kalana Hetam, but the retreat was gradual for Kalana's forces were themselves threatened in their rear.

(*d*) A discus, Siamese words.

(*e*) Perhaps also of Hindu origin.

(*f*) The Burmese tattooed their bodies at a very early period, the Peguans did not until a much later one.

Then the three thousand heroes of the four Girgassi's chiefs precipitated themselves upon the five thousand heroes and other soldiers of Dar ul Alum. Here there was much slaughter amongst the Samang and Bila soldiers, whose bodies lay in heaps like small hills. So that part of Kalana Hietam's force was routed and fled behind the five thousand. Thus only heroes were opposed to heroes. [Here the same metaphors are used as before.] At length the heroes of the Samang and Bila could hold out no longer but gave way like goats before tigers. But three thousand held their ground under the command of three chiefs. Their order however had been by this time broken, while the second or rear line was also broken. They, however, rallied and attacked the Girgasssis, and after slaying a few of them they met the commander of the heroes whose name was Jangi Kala, also the officers named respectively Pir-jungkala, Kirchangkala, and Hassingkala. All of these chiefs were armed with maces. Then came Pakerma Bukit, chief of the Samang, who encountered in single combat Jangi Kala, and Sri Nairat Gunong, who was the chief of the Bila, who fought with Perjangkala mace to mace. Next Máhá Biru Gunong came. He was chief of the Samangs, and he engaged Perjangkala. So here were six heroes engaged in mortal combat with their maces, three against three.

Now the five other chiefs of the Girgassi plunged into the midst of the three thousand Samangs and Bila. The forces of Dar ul Gunong and Jakjakoocha Rájá were broken by the onset of Phra Ong Kunai Rat and Phra Ang Tang Ta, and Phra Angsurin and Phra Angkuriu, assisted by all the newly arrived Rájás. It was like the flacking of cotton, so quickly did they come on. For the four Siamese Rájás advanced to the charge in front of their troops, and struck into the centre of the enemy. They would not even wait for their officers, who followed at a distance. [It would be difficult to catch a Siamese or Burmese or Peguan officer in these degenerate days leading his men to battle. They prefer looking on at a pretty safe distance.] None could withstand this prowess of the five chiefs. When Dar ul Gunong and Jakjakoocha Rájá and the Panglimas Dara Bukit and Nara Gunong and Pakerma Alum and Pakerma Dewa and Mangan Udara observed the disorder and dispersion of their force before these warriors; they became furious and quickly confronted in person the enemy and advanced on the host of the latter. These six

chiefs encountered the four Siamese Rájás, who were busy making prisoners. Then Panglima Dara Bukit cast his spear at Phra Ong Koonar Piat, but missed killing him as he was invulnerable. The latter leapt up and fought with his sword (g). Panglima Dar ul Gunong encountered Rájá Phra Ong Tang Ta, and both fought stoutly with *clubs*. Panglima Pakerma Ahim met Phra Sang Data Kosa, [a Siamese title,] and they combated with maces, and Panglima Fakerma Dewa, encountered Phra Ang Koosin, and they fought with spears. Panglima Mangan Udara met Phra *Maha Pho Di* and they used daggers, and closed on each other; seizing each other around the waist. Panglima Mangan Indra fell in with Phra Ong Chau Phriya, and they bravely contested with barbed spears. Thus twelve brave chiefs fought hand to hand, enemy with enemy.

The six Girgassi chiefs were thus wielding their maces, and restoring the fight whenever it slackened, when Panglima Pakerma Bukit, and Sungikala perceiving the slaughter amongst their men flew swiftly to the rescue. Jurgikala seized hold of Pakerma Bukit, and the latter also laid hold of him, but the former overpowered him and binding him, delivered him captive to his attendants. The whole Girgassi force on this set up a loud shout, and the warriors threw away their arms and grasped their enemies by main force, and although the adverse chiefs Sri Naira Gunong and Máhá Biru Gunong and their men, stabbed and slashed away most valiantly it was of no use, for these two Girgassi's chiefs Perjangkala and Karjangkala engaged with two more chiefs in a close struggle, and made them prisoners. Then the fight was again renewed, for the three Girgassi chiefs darted into the midst of the ranks of Dar ul Alum and Dar ul Salam, which gave way.

At this period a Panglima or Kapet of Kalana's force who had thus given way, told the Rájá that the five thousand heroes had been slain or made prisoners. When the Rájás of the Samang and Bila heard these tidings they were enraged, and forthwith precipitated themselves into the masses of the Girgassi, discharging their arrows in advancing at Jangi Kala, who only turned a little but was not wounded. Tidings were conveyed to the four Girgassi, who quickly came to the aid of their chiefs. Two of them, Sangkera Angkara, and Phusang Dati Kose came, one on

(g) There is another weapon called جگر jagar or chigra, of which I cannot get a description. It was perhaps a discus. The chakera is elsewhere mentioned:

the right, the other on the left of Máhá Rájá Dar ul Alum, and Phra Si Sim; and Gra Tang Ta Chau Phruja in a similar way attacked Dar ul Salam. Dar ul Alum was wounded by the spear of Phra Sang Wira Angkara in the side, and then Phra Sang Dati closed with him, while Sang Wira Angkara seized his feet, and sitting on the breast of his prostrate enemy he bound him and delivered him prisoner to be taken before Kalahom. Dar ul Salam on seeing all this threw away his bow, and grasped his sword striking like a madman right and left. The chiefs above noticed, who were respectively on his right and left, swiftly threw themselves upon him, and after several swords had been broken and a strong resistance had been made by Dar ul Salam with his feet, which excited the laughter of his enemies, he was overpowered, and they were going to tear him in two, each having hold of a leg, when Phra Sang Ye Sim interposed; and advised that the prisoner should be sent to Kalahom. When the Samang and Bila learned all these disasters, they set up a loud shout and advanced to rescue their chiefs. But they were intercepted by the three Panglimas of Girgassis and driven back. Then the Girgassi Rájás get on their animals, and rode straight towards the line of Kalana Hetam, where the fight still raged. Now there only remained of all the officers, Kalana Hetam himself. He was excessively exasperated at seeing the field nearly cleared of his troops. He seized his sword and descending from his kaindra-an or conveyance ran towards the Siamese Rájá Phra Máhá Pho Di. He struck his spear from behind right through the body of Pho Di, who fell down dead. This disconcerted the force of the latter. But the four Girgassi Rájás arriving, they leapt down from their kaindra-an and attacked Kalana Hetam, who was in the act of stabbing at Phra Chau Phringa. The latter evaded the blow by leaping down from his kaindra an. But Kalana Hetam passed his dagger through his body and killed him. Now the four Girgassies came together and upset Kalana Hetam. But he got up and stabbed at the Girgassi. He struck Sangwira Angkara but made no impression, and trying the same on Sang Dati Kosa; when the Girgassi struck with his weapon Kalana Hetam. The latter fell; but suddenly getting up he attacked the Siamese Rájá on his kanaikan, who evaded him. The four Girgassi Rájás were very angry at all this, and because Kalana would not encounter them. In the meantime Kalahom sent his invulnerables to seize Kalana. But he escaped the hands of the four Girgassi

who tried to seize him and attacked Phra Ong Surin with his dagger. They were fighting stoutly, when Sangwira Angkara, the Rájá of the Girgassi seized his sirubah and Phra Sang Dati Kosa seized his jagar and sprung forward to assist Phra Ong Surin, and he tried to wrest Kalana Hetam's dagger out of his hands, in which attempt it broke. Kalana tried now to unsteath his kris, but Sangwira Angkara threw his iron siruba (*a*) at Kalana Hetam, which twisting round his body secured his arms, and brought to the ground, when he was instantly bound and sent to Kalahom. Kalahom now sent to call as many of Kalana Hetam's men as might chuse to come and submit to him.

Kalahom told the four Girgassi Rájás to take all the Rájás, chiefs, officers, and men of Kalana Hetam, [who had been captured or who submitted] and their property and families to the great Rájá of Siam, that his majesty might allot them a district to live in; because Kalana's men *were brave*, and their bodies were invulnerable to steel, and would be valuable as servants of the king. Further Kalahom instructed them to give a full account to his majesty of all that had passed.

The Rájá of *Ligor*, who was present, said to Kalahom—Your slave is of opinion that all the forces of the five or six provinces now assembled around your highness's camp ought to accompany your highness to Kedda, in case more enemies may be lying in wait on the way. [15]

NOTES.

[15] There appears to me no reason for our not believing that an engagement took place betwixt the Siamese forces and those of another nation, in the direction assigned by our author; although he seems to have drawn for some of his *details* on a rather exuberant imagination and perhaps on various Hindu or Javan authorities. His heroes are described in somewhat of a homeric strain, if small things can be at all compared with great, and he is certainly equally unscrupulous in his employment of supernatural machinery. There are still extensive plains betwixt Ligor and Kedda.

The Siamese army was commanded as it would have now been under similar circumstances by the *Kalahom*; this officer is placed at the head of Siamese troops destined to act along the coast, the *Chakkri* commanding forces sent inland.

Kalana Hetam the general of the opposing army is here stated to have come from a lake to the eastward of Pegu, but of such a lake I have not been able to get any account. Kalana in Malayu means

(*a*) A sort of iron *lasso*.

a vagabond, and hetam is "black" in allusion to his body having been tattooed. This was doubtless one of the inroads made by the Peguers during the period when the Siamese contended with them for the supremacy over the Tenasserim coast, for Kalana Hetam insinuates in one of his speeches that this was not the first time that he had encountered Kalahom.

The jumble of titles which our author gives to his heroes cannot be reduced to our regular standard. Bali, Persian, Malayan, Siamese, perhaps also Javanese, and one of those belonging apparently to jungle tribes, are all here put into requisition.

The hill tribes, if we are to credit this narrative, were much more numerous and warlike than they now are. Indeed they have dwindled down into a few roving parties or families, whose numbers seldom at the utmost exceed a few hundreds. But the allusion to them evinces the belief as an early period that these tribes had long settled in the northern parts of the Peninsula and in Pegu, and they were subjects of Siam. The strength of the contending armies on this occasion was exaggerated we can easily believe — yet it is well known that the Peguers, first and then the Burmans and Simee, could bring considerable armies into the field.

The marshalling by our author of the hostile line is in accordance with the system adopted by the Siamese of the present day and of which I have already given some description [a]. Like the Burmese and Siamese and Malays too of the present time the force we have been following had no tents. They erect huts of branches and leaves, of which they generally find abundance every where; and they entrench themselves wherever they halt, even for a night.

Like the Chinese armies, those of Kalana and Kalahom seemed to strive which should frighten the other by the loudest noises.

I once in 1831 visited the Rájá of Ligor when encamped with about seven thousand men. The greatest order prevailed and there was no din. The only noise at night was that of a gong at the relieving of the sentinels, and guards. To be sure there were no enemies at the gate, for these had first been subdued, the Malays I mean.

Our author's poetical description of sun rise is of Persian origin. The *Riyang* is a small cicada which is found in all the jungles of the Peninsula. Its creaking sound may be heard at the distance of a quarter of a mile. According to the Malayan annals the Siamese and Malays fought in A.D. 1201 with bows and arrows. And the Javanese and the Macassars when they attacked Malacca in 1440 A.D. They used poisoned arrows, propelled through blow pipes, weapons which the Malacca men were then unacquainted with, which appears strange for the wild tribes of the Peninsula use them [1]. These aborigines of the Peninsula probably had the

[a] Trans. B. A. S.

[1] Mal. An. No. I.

same kind of weapons then, for I found them in the hands of the Sakai tribe in the heart of the Perak country. The arrow is made of bambu, and the sharp end is hardened by fire, other not has a piece of pih. It is blown through a cane tube 6 to 7 feet long preserved in a sheath of a lighter cane. The shooter places the large knob at the top of the tube in his mouth, then having closed his lips he expels the arrow through the tube with the whole force of his lungs. The arrow being so slight flies a long way with the wind, and monkeys are killed by it on the highest trees. The poison in which the arrow is dipped is procured from the ipoh tree, but it has little effect unless used soon after it has been prepared over a fire. The arrow is dipped into the viscous liquid and immediately shot off.

So late as the advent of the Portuguese at Malacca, the natives were astonished at the fire arms and guns used by the former. Yet it is probable that the Arabs had brought fire arms or guns to Achin before that period.

The Malayan short kris was in these days two and a half spans or about one foot nine inches long. The umbrella is used by most of the Indo-Chinese nations to denote the head quarters of a general. The Malays employ spears with horse tail streamers dried red attached to them.

The lord is a fabulous animal. The walmana is another. The chakka is the iron discus. It was used in India, and is one of the weapons of the gods, the chakka of the Siamese, Bali and the Khrong Chak of the Siamese. It appertains in Hindu mythology to those who had attained to that state of purity and beatitude termed in the Bali *reti wato*. It is one of the instruments with which one of the chiefs or officials tortures the damned spirits in Naraka, or the infernal regions of Buddhist mythology, on whose heads it twirls like a fiery whirlwind. According to some authorities the Hindu chakka was a circular mass of fire instinct with life and darting forth flames on every side. Hence it has been inferred that the above people were possessed of a species of Greek fire or agni astri which they turned to the purposes of war⁽¹⁾. Vishnu bears in his hand the discuss termed Suharsan⁽²⁾ as does also his Sacti. According to Mallet cited by Maurice, the Scandinavian Jove seems to have been armed with the chakka of Vishnu. And although it is generally I believe supposed that the Druidical Circles in Europe took their form from the great snake with its tail in its mouth as the emblem of eternity, still there is reason to suppose that the chakka, if it did not afford a type for architectural purposes, was well known to the Druids, for Mr Maurice acquaints us that in the year 1789 there were discovered gold coins with this emblem upon them in the middle of the ridge of Carnebrehill in Cornwall. As a type of eternity

(1) Wilkins's Bhagavat.

(2) Maurice's Indian Antiquities.

Brahma is exhibited in his statues with the chakka in one of his hands.

In the Bali Malinda, a work in my possession, I find that the chakka was one of the seven precious things procured from the Maha Tamootha or great ocean. In this instance as it applies to royalty it typifies universal domination ⁽¹⁾.

The jirubah is the chain weapon made of iron, which appears to have been used in India. It is a sort of iron lasso, only it is not a noose, but an instrument to bring down an enemy by entwining round him if dexterously thrown.

CHAPTER XI.

The General Kalahom did not approve of this new escort and therefore directed the Rájá of *Ligor*, and all the chiefs and people of these five or six provinces to the S. S. E. to return home, saying he would write to them if he required their further aid. He then mustered his *own* force, and found that he had one thousand men fit for duty and unwounded, the killed and wounded having been from three to four hundred. So he sent the wounded to their homes, and prepared to pursue his original journey. He however halted, to refresh his troops for three or four days.

The four Girgassi chiefs in the meanwhile requested to have their leave, and to set off for Siam with their prisoner Kalana Hetam—i. e. Kalana, with the *black or tattooed belly*. So they set off for Siam, as did the Rájá of *Ligor*, and the other chiefs and Rájas to their several districts, sending before they left, dressed dishes for the General Kalahom's table. The General then set out on his route, and the inferior Rajas through whose districts he passed, met him and supplied him with provisions. Raja Kalahom after a while arrived with his escort on the border of Kedda, the route there lying along the sea shore. At this period Gunong Tunjang mountain had become annexed to the main shore and was far inland, and passing that mountain, the next one, *Pulo Giryang*, had also become attached to the continent, and obtained the name of Gunong Giryang.

Passing onward along the sea shore, Kalahom noticed numerous prahus sailing to and fro. At length he came to a spot where the ground was raised a little above the general level, and where there was a rivulet abounding with fish; and in the vicinity of which all sorts of game abounded.

(1) Several of these remarks on the chakka with others are contained in my paper on the Prabat or "Sacred Footmark" of Buddha. Tr. R. A. S.

Here Kalahom entrenched himself within a mud wall and ditch; and then despatched a letter to the four Kedda mantris directing them to come to meet him and to bring their Raja, should they have found one, along with them, to partake of the field sports and other amusements, at his encampment at a place called [since then?] *Sungei Sala*. The messengers reached Raja Bersiyong's fort. Here they were told that the four mantris had gone with their Raja (down the river) and were engaged in digging, what is now called, *Sungei Kwalla Muda*. This new cut was made, because it would greatly shorten the distance from the sea to Kota Aur, Raja Bersiyong's fort, and at the same time straiten the course of that large river, which for ages had been rolling in a tortuous channel. It was also becoming obstructed through time.

After receiving the letter of Kalahom the Raja and mantris returned to their fort to prepare for their journey to *Sala*. When all was ready, the followers, chiefs and armed men, having every requisite for hunting, fowling and fishing set off. The march was made slowly, the Raja halting for some days occasionally when game was plentiful. In this manner the cavalcade reached the *head* of Gunong Jerrei, wher abundance and varieties of fruits were obtained. Thence the route lay *towards* the sea shore where all sorts of shell fish were procured.

The party then directed its march towards SALA; and on reaching it the whole of the Siamese mantris advanced from the entrenchment or temporary fort and respectfully welcomed the Raja; escorting him also into the fort with his four mantris. The Raja then sat in state in the audience hall, with all his courtiers and state officers and people around him. Then Kalahom brought forth the paper or firman of the Raja of Siam. This he handed to the four mantris who respectfully received it and had it read. The purport of it was, that the Raja of Kedda was thereafter to be entitled Raja Pra Ong Maha Potisat, (Pho ti Sat.) The four chiefs or mantris then related from beginning to end, all that the elephant Kamala Jauhari had done towards discovering the new Rájá, and Kalahom in return narrated what had happened to him on his route from Siam; observing, that it was very fortunate for the Rájá and his four mantries that he had been sent in time, to prevent Kalana, with the *tattooed paunch*, arriving to wrest from them the government of Keddá, telling them also that this chief had been sent a prisoner to the great Raja of Siam.

We have indeed been lucky, replied the ministers, to have escaped the risks of battle. Kalahom having thus fulfilled his mission gave a feast of all his good things, eatables and drinkables, to the Raja and his 4 chiefs; and at the same time he had his acts proclaimed by the beating of all sorts of instruments. Kalahom then laid down the Raja's duties for him. It will be, observed he, his duty to exercise forbearance and shew kindness towards his subjects, and towards slaves and dependents; to follow just laws and customs, and to mercifully dispense charity towards the poor and the beggar or fakier. Moreover where the punishment of death should be justly merited, and should be due to any one, as today, to delay the execution for three or four days. Further he enjoined upon the Rájá and mantris, that the Rajas of Kedda should not all stay in one town or fort. The Raja he directed should occupy a fort, and all his chiefs should select separate establishments. You may perceive, said he, that large tracts of land have been left dry by the sea, and are available for use, and that here even where I am now residing there are many level and clear spots or tracts very fit for settlements. To these instructions the four ministers and every body else lent a willing ear, and expressed their assent.

So the Raja Pra Ong Maha Potisat prolonged his stay in Kalahom's fort. The days were spent in hunting, and all kinds of amusements, and Kalahom in the evenings instructed the Raja in his duties, and gave him hints for his conduct as a prince (or Phriya).

When the Raja and Kalahom went out in the morning to hunt, each was mounted on a separate elephant, followed by netters and dogs, and accompanied by the chiefs and officers of both; every one was delighted, as from the abundance of all kinds of game no one thought of the morrow.

One day while thus abroad Raja Pra Ong Maha Potisat discovered a hut in the forest in which an old man resided with his wife. A clump of bambus, which grew near the house, had a protuberance in the middle where the joint was unusually large. So he ordered this knot to be cut and brought away. To vary the scene Kalahom took the Raja to the sea shore to fish and collect shells. This long stay of the Raja was owing to the delay occasioned by the manufacturing of gold and silver flowers which *Pra Ong Maha Potisat had ordered to be made in order that they should be transmitted and respectfully presented to the Maha Rájá Besar or great Rájá (of Siam) in token of his having become the Rájá of Kedda*, and as an earnest of the

enduring and unbroken amity and friendship which was thenceforward to subsist (betwixt Siam and Kedda)

The gold and silver flowers were ready at the end of five months. Raja Pra Ong Maha Potisat accordingly gave them in charge to Kalahom, and also a number of other presents for his Majesty of Siam, also a letter from himself to his Majesty.*

So the Raja of Kedda and his four ministers *asked permission* of Kalahom to return to the fort of Kwalla Muda. Kalahom after unceasingly impressing on the Rajah's mind the advice he had before given to him, regarding the government of his country, permitted him to depart, while he himself set off for Siam with the flowers, presents, and letter, these being marks of his having fulfilled his mission by installing the Raja of Kedda, and of all his doings while in that country.

The letter and the gold and silver flowers and the presents were conveyed by Kalahom to Siam, and presented by him to the great Raja as play things for his child. He also gave a true account of his mission. The Raja of Siam was much gratified. After this period the Rajas of Siam never ceased sending envoys yearly to the country of Kedda, with friendly and amicable letters to the Raja, nor did the Kedda Rajas ever cease to reciprocate such presents and letters. [16]

NOTE.

[16] I have sufficiently identified the places mentioned in the preceding pages. I went last year to look for the place called *data* which however had perhaps nothing to mark the spot originally. I proceeded up the stream still called Sala, until stopped by a rocky bottom, and close to a hill of moderate elevation called Cloras on the summit of which I found the remains of what appeared to have been temples. The word Sala is Magadha. Taus in the Mahawanso p. 117 I find it stated the *hail* built on that spot to perpetuate the miracle became celebrated by the name of Sam-mudasanna—Sala.

* There is no mention here of any relationship existing betwixt the Kedda Raja and the king of Siam, although only two Rajas had intervened since as the alleged brother of Sri Mahawansa had become king of Siam.

[To be Continued.]

CEREMONIES ATTENDING THE FUNERAL OF THE LATE
KING OF COCHIN CHINA.

ABOUT four months ago I received several numbers of your valuable Journal which you had kindly sent me, and for which I give you many thanks. This Journal, conducted in a good spirit, appears to me calculated to do good. I wish I could send you something of interest to insert in your pages, but the painful position in which the persecution places us, prevents me from exploring the country in which I am, and closely studying the manners of the people whom Divine Providence has called me to convert. I am obliged like all my brethren in Cochin-China, to keep myself shut up in a miserable cabin, and all that I do must always be done through intermediate means. However, I will give an account of an event which has made some little noise in the kingdom this year. It is the death and funeral of Thiên Tri, king of Cochin-China.

The king Thiên Tri, son of the cruel Minh Mang, had scarcely resolved to tread in the footsteps of his father, and renew the persecution of the Christian religion, and hardly had he published sanguinary edicts against the ministers of that religion, and against those who did not wish to abandon them by a base apostacy, when the hand of God was laid upon him. He fell ill, and his sickness, it is said, was caused by the fears which the Europeans inspired in him. In spite of all the doctors, in spite of all the sorcerers, the sooth-sayers, the mountebanks and other individuals of that kind, whom he caused to assemble from all quarters, for in no part are all these absurd superstitions more in vogue than in this kingdom, Thiên Tri died on the 26th of the 9th moon (3rd November) 1847. When the king was dead, it was necessary to consult other sorcerers, and mountebanks of another kind, in order to know the day and hour propitious for enshrouding and encoffining the body. The coffins here are made of a single large piece of wood hollowed out, and are covered with another piece of wood, also hollowed. They are then painted and varnished. The lid shuts up the coffin hermetically, so that it can be kept in the house many months and even years, without any bad smell exhaling from it. When the corpse of Thiên Tri was deposited in the coffin, there were also deposited in it many things for the use of the deceased in the other world, such as his crown, turbans, clothes of all descriptions, gold, silver and other precious articles, rice and other provisions. In all these lands the pagans act as if they believed

that the dead could still employ all the articles of which they have made use during life. When the body was deposited in the coffin, it was carried to a richly ornamented house, made expressly for the purpose, and sundry buffaloes, swine, poultry and other animals were immolated, and meals were set out upon a table made on purpose near the coffin. The new king, son of the defunct, clothed in a mourning dress, came each day to prostrate himself before the body of his father, and to offer prayers to him. Every day also, wax candles were lighted, or incense burned. Betel or areca nut, tobacco, &c., were prepared, and were all placed near the coffin. It was above all on the sacred days, declared such by the sorcerers of the kingdom, amongst others the 1st and the 15th of each month, that the sacrifices were made with the greatest splendour. The body remained exposed thus in its lighted chamber, until the 21st of the 9th moon 1848 (21st June,) a day indicated by the soothsayers and the astrologers as propitious to commence the funeral rites. Here nothing in regard to the sepulture of the dead is done by chance; it is necessary that the place of interment, the day, the hour in which a deceased person ought to be interred, should be indicated by the sorcerers and the astrologers, who chuse the place by means of a compass, and read in the stars the propitious or unpropitious day. If all the formalities have not been fulfilled, and if what has been prescribed by the sorcerers has not been followed in every thing, they predict to the children or the parents of the deceased, that they will have no more good fortune, but that all kinds of evils will unceasingly pursue them. It often happens that a deceased person is disinterred several times in order to inter him in another spot when a family sorcerer, to gain a little, throws them into a fright by announcing misfortunes, because their dead parent has not been interred in a proper spot. It is not the people only who conform to all these absurdities, but the great also, the king himself and the mandarins. Many however do not believe in them, and when it is represented to them how much all that they thus do is contrary to the most simple good sense, they say that is true, but it is a crime not to do what the king does, and what our ancestors did. As for the sorcerers and the soothsayers, I have caused many of them to be questioned confidentially, to know if they believe in all that they profess, and they have always frankly replied to the christians who interrogated them, that they did not believe the least in the world, but when they have been pressed to quit their disreputable profession they have a strong argument, which is—if we abandon our occupation we

must die of hunger. When then shall the light of the gospel cause the thick darkness to disappear from the Chinese empire, as it has dissipated it in the greater part of the other countries of the globe, and above all in Europe, for our fathers were plunged in superstitions as gross as those of the people of Asia, before they were enlightened by the torch of the faith! We ought to give perpetual thanks to God, for having rescued us from ignorance and crime

On the 21st of the 5th moon, the coffin containing the body of the king, was carried to a house built for the occasion near one of the gates of the city, not far from a stream. Upon the stream were collected all the vessels which were to act as a convoy. The road which the corpse was to pass over in order to arrive at the vessel was covered with mats, carpets and Indian tapestry of silk. The two banks of the river, on which the corpse was to be carried to the tomb, were also adorned with silks. An edict had commanded the mayors and old men of all the villages of the royal province to erect each an altar along the side of the river, to bring incense, to burn wax tapers, and when the corpse passed before the altar the mayor and old men were to make three great cries.

Each bank of the river was also lined with soldiers. The tomb is distant about a league from the city, but three days were allowed to arrive there, for they went very slowly and they had three stations. At each station there was a very large altar on which were burned wax tapers and perfumes, and the corpse rested there one day in order to receive the sacrifices which were made to it. These sacrifices consisted of buffaloes, swine and other animals, who were first strangled and then offered entire. There were also prepared meats, betel nut, tobacco &c. When the offering was finished the animals were divided and distributed to the mandarins and soldiers who accompanied the funeral. The coffin remained then one day in a house placed near the gate of the city, and this day 35 large animals, oxen, buffaloes, and swine were sacrificed. On the next day they put themselves in motion to go to the boats. The coffin was carried by soldiers, at the rear came the new king who conducted the mourning as chief of the family. He walked on foot clothed in mourning robes, that is, he wore a long dress of white cotton with large sleeves, upon his head he had a straw bonnet and carried in his hand a stick of dry bambu. Then came the other children of the deceased king, and of his parents, wearing white dresses and white turbans, the mourning costume of these countries, and after them the attendants. When they had arrived at the river the corpse was deposited in a magnificent bark

constructed expressly for it, no person went into this boat, the corpse was left by itself, and the coffin concealed in such a way that it could not be seen by any one. The journey upon the river then commenced. First was a boat in which were the bonzes mounted upon a stage which ten soldiers supported on their shoulders, and whether they went in a boat or whether they walked, the bonzes were upon this and they prayed, they shouted, eulogising the defunct; but all in a manner ridiculous, even in the eyes of sensible pagans. These poor bonzes were obliged to remain upon the stage during the whole journey, and they were not allowed to descend on any account however pressing. Three other boats followed which had also other three stages; upon one was displayed a large piece of white damask fastened upon a wooden frame, and on this damask were written a number of large superstitious characters. This is, according to the pagans, the abode of one of the souls of the defunct. On another stage were rice, fruits and other meats, and upon the last stage were perched certain mountebanks whose duty is to chase away the demons who wished to come and seize the soul of the defunct, or at least vex it in any manner they could. These individuals had their bodies painted different colours, some white, others black, others red, green, blue, violet, brown. They had wooden swords, lances, or other weapons of wood in their hands, some had fire brands. They howled, they sung, danced, made a thousand contortions, shook their wooden arms or fire brands, all with the purpose of frightening the demons. After these barques came the boat which bore the corpse towed by another boat, and after it came the boat of the new king who was alone with his women. His boat was also towed, then came boats bearing the princes and the mandarins: There were also boats in which were soldiers carrying fire brands and torches, besides other boats in which the soldiers had arms, muskets, sabres, and lances. Thus they proceeded on the 1st, 2nd, and 3rd day, observing all that has been said above, and scattering throughout a large quantity of gold and silver paper. They slept during the night in the boats. They also eat in the boats.

At last on the 11th, they arrived near the tomb, built in a mountain very near the river. On one side of the mountain an edifice had been built of beautiful stone enclosed by a wall. In this edifice are the apartments which must serve as a prison to the wives of the defunct who have no children. They are perpetually shut up there to guard the sepulchre, and prepare daily the food and the other things of which they think the

deceased has need in the other life. In the mountain a deep cavern has been excavated, the entrance to which is in the edifice, and is formed of a large stone. It is in this cavern, which is extended to the middle of the mountain, in a place unknown to the public, that the corpse is deposited. This place is only made known to the persons strictly necessary, for they fear that in case of war the enemy will try to profane the remains of the defunct king, as has already happened in this country; and this is regarded as one of the greatest of misfortunes. From the river to the tomb a floor has been made covered with beautiful mats, and over this floor the coffin was borne and the whole of the convoy marched, who also carried all the boats and stages with great pomp. At the precise hour indicated by the astrologers, the corpse was deposited in the cavern, and with it were interred much gold and silver, precious stones, and many other valuable objects, and then the cavern was closed. This done, three large piles were constructed within the compass of the walls. These piles were composed of boats, of stages and of every thing that had been used in the funeral, and moreover of all the objects which had been in use by the king during his lifetime, of chessmen, musical instruments, fans, boxes, parasols, mats, fillets, carriages &c. &c. and likewise a horse and an elephant, of wood and pasteboard. There was also burned separately a magnificent boat all gilt, in which had been placed gold, silver, and precious stones. This was the boat which had been used by the king during his life, and further another very magnificent boat was burned which had been built for the express purpose of carrying the corpse. The young king applied the fire. During all the time of the burning the mountebanks who before had been mounted upon a stage, and whose duty it was to chase away the devils, conducted themselves in a very singular manner. They danced, leapt, brandished their wooden arms, or firebrands, they sung, they shouted menacing the demons with all kinds of misfortunes, in order to prevent them from entering the cave where the corpse of the king had been interred. When all was consumed the new king and the mandarins quietly returned to the city. In this ceremony, however, several mandarins lost their rank, the least mistake about the ceremonial being most severely punished.

Some months after the funeral, at two different times, there were constructed in a forest near a pagoda, two magnificent palaces of wood with rich furnishings, in all things similar to the palace which the defunct monarch had inhabited. Each palace was composed of twenty rooms, and the

most scrupulous attention was given in order that nothing might be wanting necessary for a palace, and these palaces were burned with great pomp, and it is thus that immense riches have been given to the flames from the foolish belief that it would serve the dead in the other world. However, the people who bear all these foolish expenses, and who die of famine, and who perhaps do not believe that they are necessary, murmur in secret and bear with much discontent a very grievous yoke; they dare not complain openly, for should a word of complaint reach the superior authorities, it would suffice to call down death upon those who uttered it !

SUMATRA.

WE have hitherto refrained from inserting any papers on Sumatra, because Mr Marsden's admirable work has long made the English reader familiar with one section of that great island. Although it comprises but an inconsiderable portion of the whole*, and the countries and races with which he was not personally acquainted and of which his notices are often extremely meagre, are in some respects more interesting than those with which the English settlements on the S. W. coast were connected, we considered it proper to turn our attention in the first place to those portions of the Archipelago which have hitherto not been so fortunate in securing English historians as Sumatra and Java. We now intend to give to Sumatra that place in this Journal to which it is on many accounts entitled. Next to the Malay Peninsula it has perhaps the greatest claims to the interest of residents in the Straits Settlements; while as the original seat of the Malays and their language, it demands the attention of all who are desirous of exploring the history of the Archipelago. It is by comparing the language and customs

* A glance at the table of contents would have shewn this, but unfortunately it has none. The more correct title of the work would have been "An Account of the Rejangs, with notices of the other races of Sumatra." The territory of the Rejangs is about 4,500 sq. m. or $\frac{1}{10}$ of the island, but they receive far more space in the History of Sumatra than all the rest of it together.

Rejangs	....	.....	.....	251 pages.
Korintchi	....	.....	.....	21
Menangkabau	..	.....	.....	28
Indrapura, &c...	12
The Batta countries	30
Achin	69
The Western Islands	15 175

General	44
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We do not point out this disproportion to detract from the merits of this most able and delightful work, but to disabuse our readers of any impression that Sumatra has been fully described, and to warn them that Mr Marsden's whole work is somewhat coloured by his too often confounding the Rejangs with the Sumatrans generally. In spite of his genuine truthfulness and great sense, the reader rises from the perusal of the work with a very erroneous and imperfect notion of Sumatra as a whole. Some of the historians of India have ranked it as one of their advantages over their more travelled rivals, that they knew nothing of the country save from books, and the example of Mr Marsden seems to give some countenance to the notion. We believe however that Mr Marsden's was a mind capable of overcoming the tendency to exaggerate the importance, and be blinded by the bias, of what was most familiar to it, and that it was the sheer lack of materials for a general history of the island that made him give Rejang 250 instead of 10 pages, which would have been its just proportion.

of the Malays with those of the races of Sumatra who have surrounded the inland Malayan region from time immemorial, that any trustworthy conclusions are to be established with respect to the origin of a people who have filled such an important part in that history, and by their boldness, enterprise and rapacity thrown the other indigenous tribes into the back ground. In this work we have made some progress. The race that has appeared to us most important in such enquiries is that of the Batta', and the results of a comparison of their dialects, for they have several, with the Malayan, we shall lay before our readers in due time. The Battas have excited so much curiosity, and the notions commonly entertained respecting them are so erroneous, that before we can enter on these historical investigations with advantage, it is necessary to obtain a correct knowledge of their actual character and mode of life at this day. We are enabled to do this through the labours of Mr P. J. Willer, who passed five years in the southern part of the Batta' countries, in charge of the Provinces of Mandhelung and Pertibi now belonging to Netherlands India. He made an exceedingly able and careful compilation of their laws and customs, which was afterwards published in the *Ijdschrift voor Nederlandsch Indië*, accompanied by an account of the country and the people. It is the last that we now intend to present to our readers. Our translation has had the advantage of being revised by Mr Willer himself, who has added some further elucidations. The more important and valuable part of his work, that comprising the laws and institutions, is too bulky to be inserted entire in one piece, but we shall afterwards give an abridgement or selections from it.

We precede Mr Willer's paper by so much of a general sketch of the configuration and ethnology of Sumatra, as seems necessary to shew the place which the Batta' and their country hold with respect to the other races and their territories. This sketch will be continued, and as soon as we can give lithographed maps* to illustrate the subject, we shall commence descriptions of each country in Sumatra, its inhabitants, productions, trade, &c. as accurate and complete as our materials will admit.

* We hope soon to be in possession of a Lithographic Press which we ordered some time ago for this and other illustrations required for this Journal. We shall describe and illustrate the different countries of the Malay Peninsula in the same way, and we shall feel greatly obliged to any contributors who will undertake a general geographical account of Borneo, Celebes, the Philippines, Moluccas, or the Timorean islands, to prepare the way for more detailed descriptions of the different countries which they comprise.

A GENERAL SKETCH OF SUMATRA.

By J. R. LOGAN, F. G. S.,

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POSITION AND EXTENT.

SUMATRA, leaving out of view its modern alluvial accessions, consists of a rectilinear belt of elevation, stretching from the parallel of Pinang to that of Bantam, and shutting in the Malay Peninsula and China Sea from the Indian Ocean. Its extreme northwest and southeast points differ $10^{\circ} 30'$ in longitude and $11^{\circ} 40'$ in latitude, the former being in $5^{\circ} 45'$ N. L., $95^{\circ} 10'$ E. Long and the latter in $5^{\circ} 55'$ S. L., $105^{\circ} 40'$ E. Long. The belt thus makes an angle of about 36° with the meridian, its direction being a little W. of N. W. by N., which gives it a length of about 925 geographical miles. Its average breadth appears to be rather more than 90 miles, as it nowhere expands to a much greater breadth for a considerable space save in the middle region, nor contracts to a less save at the northern and southern extremities. The area covered by it is about 85,000 square miles. The true limits and configuration of this mountain region on the east have not been ascertained, but it probably forms a vast number of systems of low hills as on the west coast, and as in the Malay Peninsula on the margins and in the depressions of the belt of mountain groups. The body of the Sumatran zone does not appear to consist of elevated chains of great length, but of numerous short ranges and isolated mountains varying extremely in all their dimensions. The circumstance of the belt being partly plutonic and partly volcanic forms its peculiar character. Its configuration is in fact a combination of that of the Malay Peninsula with that of Java, with this difference that its middle region is more elevated and expanded than any part of the Peninsula, several of its masses being about thrice the height of the highest summits of that range. If a number of volcanic mountains rose here and there amongst the Peninsular groups, and in greatest number in Pera', Tiaūgganu and Patani, where it is broadest, it would be identified in character with Sumatra. The greater elevation of the mountains of the latter is however accompanied by a greater expansion of the plains and vallies which lie amongst them. In crossing it anywhere, save towards its northern and southern extremities,

three, and sometimes more, principal ranges are found with wide table lands, plains or vallies between them, watered by numerous streams, and in some places containing lakes, as in the principal Korinchi plain, the great Malayan plain of Menangkabau and the Bata' plain of Tobah. The most western ranges form the water shed, and as the land to the west of it, chiefly hills, is not more than 25 miles broad, about one-fifth only of the waters of the island fall into the Indian Ocean,—the Straits of Malacca and the Java sea receiving the remainder, in nearly equal proportions as regards the drainage of the mountains, but with a large excess to the latter from the wide plain traversed by the rivers that disemboque into it.

The western margin of the belt, washed by the strong waves of the Indian Ocean, has retrograded to the eastward, the sediment of the rivers and the debris of the coast being carried away instead of being deposited. The northern part of the east coast, exposed to the assault of the Bay of Bengal, has retained its ancient dimensions, if it has not contracted, but as soon as the open sea is exchanged for the Straits of Malacca, the mountain belt begins to retire from the coast, and a great alluvial plain commences, which, to the south of the S. E. extremity of the Batta' country opposite Parcelar hill, where the Peninsular and Sumatran belts approach nearest each other, expands to a breadth varying from 60 to 110 miles. The length is about 600 miles and the average breadth about 70 miles which gives a surface of about 42,000 square miles.* If to this we add 1,500 square miles for the area of the flat alluvial land to the north of the great plain, we shall have 128,500 miles as the area of the whole island, † the mountain region occupying about two thirds. The islands on the west coast give a further surface of 5,000 miles to be added to the elevated region, and this will make it almost exactly double the size of the alluvium.

RANGE AND NUMBERS OF THE DIFFERENT RACES OF INHABITANTS.

I. Wild Tribes.

There are two races which, not being confined to par-

* We have already described this plain and the mode of its formation, *Sketch of the Physical Geography and Geology of the Malay Peninsula*, Journ. Ind. Arch. vol. II p. 129—132

† This result is nearly identical with the gross estimate of Lieut. Meville von Carnbee, which is 8,035 leagues=128,560 Eng. sq. geo. miles. *Id.* p. 176.

ticular localities, it is necessary to mention first. They are at the opposite extremes of the civilization of the island. The one is a half wild people, the scattered remnants of the aboriginal inhabitants, now broken by oppression and solitary confinement for centuries in the jungly mountains, into a number of disconnected patches of communities, differing, it is probable, considerably in language and little in condition and ideas. Most of the notices of them are so meagre that they do nothing more than prove the fact of their existence in widely separated parts of Sumatra. Thus in the north, where they are known under the name of *Orang Lubu*, the Batas describe them as having inhabited Përtibi before they occupied it.* They are found up the Mandau above Siak.† In the south again they are mentioned under the name of *Orang Kubu* by Marsden and other writers who resided on the west coast, and we know from information received from Malays that they are found in the interior on ascending most of the large rivers whose embouchures are on the east coast. Major Sturler in his account of Palembang gives a particular description of the *Orang Kubu*, who in condition and habits entirely agree with the wilder tribes of the Malay Peninsula. The same remark applies to the *Orang Gunong* of Banka. The southern extremity of the mountain belt is inhabited by the *Orang Abung*, a head-hunting race. These are the mountain nomads, but there are also half wild people, some living in boats in the salt water creeks, and others in the sago forests and low jungles of the east coast. In this lowest class of Sumatran tribes should be included those inhabiting some of the western islands, such as the Enganoans.

Their physical resemblance to the Malays is everywhere remarked, and, as I formerly stated‡, there seems no room to doubt that they are the aborigines of the Malayan region of Sumatra, and the remnants of the stock from which the present Malays have descended. Their number may be provisionally assumed at 6,000.§

II. *Orang Malayu (Malays.)*

We now proceed to the Malay races themselves, the

* Willer, Tijds. v. N. Ind. 8th y. 2d part p. 402.

† J. Anderson, Mission to Sumatra p. 349.

‡ Journ. Ind. Arch. vol. 11 p. p. 332, 517, notes

§ The *Abung* and *Kubu* in the south appear to near about 2,000.

principal inhabitants of the island whether we consider their range, numbers, actual territory, influence or civilization. They entirely occupy the widest and middle region of Sumatra extending from the Rakan nearly to the Palembang on the east coast, and from Ayer Baugis to Kalaui on the west coast, a length of about 275 m. with an average breadth of about 190 m. and a superficies of 52,250 square miles, or little short of one half of Sumatra. The east coast is nearly straight, running throughout in a direction due N. W. by N, and evincing the wonderful regularity, unity and power of the elevatory movement which formed the mountains. The breadth of the highlands is about 95 miles. The low land that stretches from their base to the east coast has about the same average breadth, so that the region is divided in nearly equal proportions between them. The greater part of the lowlands appears to be nothing more than the waste matter of the mountains brought down by the streams, and as the ranges must have been pared down to a still greater proportionate extent on the western side of the watershed, where their sea face is exposed to a tremendous surf, the loss must have been enormous, and the date of their elevation extremely remote. It is this accumulation of sediment over so wide a surface on the east side of the mountains that has given rise to the great rivers which intersect the plain, the Siak, Kampar, Indragiri, Jambi and Palembang. It was the possession of this central, largest and most highly favoured region, that enabled the Malays to grow in numbers and civilization till they obtained supremacy in Sumatra. The mountains contain numerous vallies, some of great extent, all well watered and many enriched by volcanic soil. The population varies extremely in density. The higher parts of the mountains, and the low land between the rivers, are left to the jungle and wild animals, and possess hardly any human inhabitants. The rivers have considerable collections of houses scattered at greater or less intervals along their banks, and extending a short distance from them. The principal vallies in the mountains, on the other hand, are completely cultivated and filled with inhabitants. While the countries of Siak, Indragiri, Jambi and the northern part of Palembang, including a portion about 25 miles broad of the eastern flanks of the mountain land, contain about 200,000 souls or 5 to the square mile, the single province of Menangkabau has a population of about 385,000 or 128 to the square mile, and the whole mountain land taken together gives a mean of 40 to the square mile.

The population is distributed as follows:

1st, *Malays of the mountain region.*

a. *Menangkabau*

This is a parallelogram 60 miles from N. W. to S. E. and 50 miles broad, embracing all the upper branches and vallies of the Indragiri, including lake Sinkara and its feeders,—the watershed being on the western border. This small region, of which the surface is less than one fortieth of that of Sumatra, contains the highest mountains and most fertile and populous vallies. To the north of the plain the volcanoes of Gunong Singalang and Gunong Berapi rise to the heights of 12,468 and 13,195 feet, while to the north east of these Gunong Kasumba or Sago attains a considerable but lower elevation. The principal feeder of Sinkara has its source in Gunong Talang, which rises immediately beyond the southern boundary of the region to a great height. The population, the most dense in Sumatra and chiefly concentrated on a space of about 30 miles broad, the southern and south eastern slopes of Berapi, is about 128 to the square mile for the whole region, but probably from 300 to 400 for the completely cultivated country around Pagar Uyong. This country, Sir S. Raffles writes, "as far as the eye could distinctly trace, was one continued scene of cultivation, interspersed with innumerable towns and villages shaded by the coconut and other fruit trees. I may safely say that this view equalled anything I ever saw in Java; the scenery is more majestic and grand, population equally dense, cultivation equally rich."

Luak Tana Datar.....	80,000
Agam.. .. .	80,000
Sambilan Kota....	20,000
Lima pulo Kota.. ..	50,000
Lintau....	10,000
T. Alam....	15,000
Duo pulo Kota....	160,000
Batipu.. ..	12,000
Dua blas Kota Matua..	12,000
Tuju Luras.. ..	6,000
<hr style="width: 100px; margin-left: 0;"/> 385,000*	

* Francis, Tijds. v. N. I. 2d y. p. 94.

Sir S. Raffles estimated the population of a smaller tract, 50 miles square, at a million which would have been 400 to the sq. m. The disturbances that have since taken place, beginning with the renewed wars of the Padris and ending with the conquest of the country by the Dutch, may have considerably lessened the population.

*b. Malays of the Region of Sapulo Bua Bänder and
Gunong Sunğei Pagu.*

This is the continuation of the Menangkabau region to the south, retaining the same breadth, and extending to the south of the southern Gunong Berapi on the confines of the Korinchi country. It is mountainous throughout and does not appear to contain any large fertile vallies. The higher branches of the Batang Hari Jambi are comprised in it. Gunong Talang in the N. W. rises to the height of 10,032 *f*. G Berapi has a great elevation but its height has not been ascertained. This country has not been explored by Europeans, and as we do not hear of any populous vallies in it, we may conclude that it is thinly inhabited, and allow it 15 to a mile, which, its surface being 3,250 miles, will give a population of about 40,000.

c. The Korinchi.

This race essentially Malayan* occupy the continuation of the mountain region southward from Gunong Sunğei Pagu district as far as a line drawn N.E. by E. from the mouth of the Kataun. The proper country of the Korinchi is the north eastern portion of this tract, but the clans occupying Serampëi, Sunğei Tenang, Limun and Labun appear to be allied to them. Korinchi itself contains several lakes, and these with the streams to the southward as far as Limun feed the central and southern branches of the Jambi. This tract is 100 m long, and 50 m. broad, which gives a surface of 5,000 miles. The population may be reckoned at 15 per mile and will amount to 75,000.

d. The Rawa.

This people, who are of the same race as the Malayan highlanders to the south of them, and differ from them chiefly in being more adventurous, occupy the mountain territory drained by the Rakan and its tributaries, a square of about 40 miles lying immediately to the north of Menangkabau. Their number is probably 25,000† or about 16 to the square mile, but in the valley of the Sumpur where they are chiefly concentrated‡ the mean must be much greater.

* The Korinchi still preserve an original (Indo-Malay) alphabet. It is extremely probable that the Malays to the north of them used this alphabet before they adopted the Arabic.

† Francis.

‡ Osthoff, *Tijd. N. I.* 7th y. 1st P. p. 16.

2nd.—*The Malays of the hilly territories to the west of the mountain region.*

This tract consists chiefly of low hills and its general configuration appears to be identical with the hilly tracts of the Malay Peninsula such as Singapore, the interior of Malacca &c. The first range of the mountains also belongs to it. Its breadth is about 25 miles.

a. *The Sea bord of Menangkabau (1,700 sq. m.)*

Kinali	..	3,000	Bentangan Tinggi	..	200
Bonjol	..	8,000	Toba	..	800
Tiku	..	4,000	Tapaki	..	800
Danau	..	10,000	S. Labang	..	600
Duablas Kotta	..	8,000	Kapala Kota	..	500
Lima Kotta	..	4,000	Pakandangan	..	4,000
Sikara di Ulu	..	1,000	Small districts connect-		
Priaman	..	2,000	ed with it	..	4,000
Tuju Kotta	..	6,000	Sintu Lubualong	..	2,000
Ulahkan	..	1,500	Padang	..	1,400
Sunur	..	800			
Kuretaji	..	1,500			64,350*
Pakomka	..	250			

b. *The sea bord of Sapulo Bua Bandar having a surface of 1,300 sq. m.*

Pauw	..	4,000	Siranti	..	1,000
Kcta Tenga	..	3,000	Priangpara	..	500
Trusan	..	4,000	Kambaug	..	2,500
<i>Sapulo Bua Bandar</i>			Palangai	..	200
Bayang	..	2,500	S. Tunu	..	2,500
Salido	..	2,000	Pangassan	..	500
Pagnan	..	3,000	Ayer Haji	..	1,500
Batang Kape	..	3,000			
Talo	..	500			31,200*
Tarata	..	500			

3rd.—*The Malays of the lowlands or eastern countries,*

Siak, Indragiri, Kampar, Jambi, a part of Palembang on the south and the alluvial land as far as the Bila on the north, containing 86,800 miles.

If we limited this tract to the alluvium the population would not amount to 1 to the sq. m., but as we have included the hilly tract to the west of it we allow 5, or a population of 184,000. We have not been able to obtain sufficient information respecting the hilly tract to offer this estimate with much confidence. The population appears to be considerable,

* *Francia.*

and probably approximates to that of the mountains behind it, but the large extent of uninhabited jungles on the alluvial tract appears to require us to reduce the mean to the number we have assumed.

4th.—The Malays of the East Coast of the northern region.

But the Malays are not confined to the middle region of Sumatra. On the north they occupy the lower part of the eastern country at least as far as Langkat, a distance of 250 miles, which gives them an uninterrupted range along the east coast of 600 miles. They are found to the north of this as far as Diamond Point, but much mixed with Achinese. Their entire number does not appear to be above 60,000,* distributed as follows :

T. Jambu Ayër..	..	200	K. Padang ..	..	1,100
S. Pari Busa..	..	100	S. Pegurawan ..	..	100
S. Ram Kundu..	..	600	S. Sipari pari ..	..	100
S. Punya Malikan	..	150	S. Tanjong ..	..	400
S. Jejulo ..	..	5,000	S. Rāmbus ..	..	100
Ujong Prahila	..	1,000	S. Perapo ..	..	20
S. Pērla..	..	1,000	Tēlo' Piai ..	..	100
S. Bian..	..	170	Batu Kara ..	..	10,000
S. Birim..	..	400	S. Silan ..	..	400
S. Langsa ..	..	600	Assahan†	..	10,000
S. Raja Muda ..	..	200	Panei ..	..	1,000
S. Raja Tua ..	..	300	S. Tangal ..	..	200
Ujoog Timian..	..	1,000	S. Salang ..	..	100
S. Besitang ..	..	100	S. Letir ..	..	300
S. Bahalan ..	..	50	S. Besar ..	..	400
S. Langkat ..	..	7,350	S. Mōrban ..	..	100
Dili ..	..	7,000	S. Sampe ..	..	200
K. Lalang ..	..	300	S. Kubu ..	..	400
S. Tuan ..	..	100	Rakan ..	..	2,020
K. Sirdang ..	..	3,000	Allow for Creeks &c.		
S. Panti Labu ..	..	50	overlooked by Mr		
S. Palu Nibong	..	150	Anderson..	..	3,490
S. Pebowangan	..	300			
S. Mangkuda ..	..	100			
S. Bidagei ..	..	200			
S. B. Mati ..	..	50			
					<hr/>
					60,000†

* Anderson gives 350,000 as the population of this part of the east coast, but he includes a considerable portion of the Bata's region lying behind the Malayan sea-board, and it is clear that this number was a mere guess made without reference to the data of which he was in possession, for the numbers which he set down at the different places which he visited do not give an aggregate of much more than one half of this estimate.

† The entire population is given at 70,000 but at least ‡ the must be Bata's.

‡ J. Anderson. Mis. to Sum.

5th.—Malays of the West Coast of the Northern region.

On the west coast they occupy a belt extending from Pasaman to Barus, although the Batas break through it in Tapanulih Bay and at some other places. The following is the distribution of the Malay population of this tract :

Barus	2,800	Natal	3,000
Sorkam ...	1,000	Lingabaya (inland) ..	3,000
Semawang or Tapanuli	200	Batahan ..	2,500
Kalangan ..	300	Ayér Bangis .	3,000
Badiri ..	300	Sikilang ..	3,000
Pinang Sure ..	2,000	Pasaman ..	200
Batu Mandam ..	1,000		
Singkuang ..	1,500		
Kunkan ..	500		
			<hr/> 24,100\$ <hr/>

If to the above data we add 10,000* for the number of Malays in the other parts of the island where they do not predominate, we shall have 898,650 as the total pure Malay population of Sumatra.

With the exception perhaps of Lampong, the people of which are too much allied to the Sundanese to be ranked as pure Malay, the races of the southern region of Sumatra are really Malay,† although with a tincture of the languages, and at some places of the blood, of Java. The Malay region therefore in its widest sense includes the people who use the Rejang or Renchong alphabet. This includes Rejang, Serawi, Passunah, Palembang &c, a country having an extent of about 22,775 m. which gives the whole Malay region a surface of 79,825 m. and a population of 1,331,650. The distribution of the races inhabiting the southern region is as follows :

Southern Races.

The southern part of Sumatra may be called the country of the rivers Palembang and Tulang Bawang, for they and their numerous branches traverse the whole of it, save a narrow belt on the west coast‡ Several civilized races are found around the Palembang; on the north pure Malays, near Palembang itself the orang Palembang a Malayu-Javanese race, on the north west the orang Rejang, on the west the

* Francis.

† P. Niss alone has 3 000. In the Achinese territories and Palembang there must be a considerable number.

‡ See my remarks on this subject, Journ. Ind. Arch. vol. 11 p. 517 note.

§ Indeed the configuration of the whole island is such that it would be best described as a series of river districts, the portion of the narrow belt of hills on the west coast behind each being considered as accessory to its u'u, as the Malays do in the case of the Musi or Palembang with Banka at its mouth and Bankulu behind its head waters.

orang Serawi and Pasumah, and on the south west the orang Komreng. The country of the Tulang Bawang is occupied by the orang Lampong.

III. Orang Pălembang.

The greater portion of the territory possessed by this race is the continuation of the great eastern plain. They extend along the branches of the river into the interior, the line where they are succeeded by the races who inhabit the *ulu* not being well defined. This region contains about 13,400 sq. m. and a population of 201,000 or about 15 to the sq. m.*

IV. Orang Rejang.

The whole mountain country from which the upper part of the river Musi (the main branch of the river of Pălembang) draws its feeders, appears to be occupied by this people. It is about 60 m long and 50 m. broad, giving an area of 3,000 sq. miles. The western seaboard consisting of about 25 miles of hilly country, is inhabited by the same race chiefly, which gives an addition of 1,500 sq. m. The population of this western tract is 23,881† or 16 to the sq. mile, and there seems no reason to allow a higher rate for the interior. The Rejangs probably therefore number about 72,000.

V. Orang Serawi.

The people who speak this language, but with the O. Pălembang use the same character as the Rejangs, occupy that part of the mountain country from which the feeders of the southern branches of the Pălembang are derived, including Pasumah ulu Manna and Pasumah Lebar. Their range also extends partly into the Pălembang country. The mountain region which they inhabit is about 65 miles long and 50 miles broad giving an area of 3,250 miles. According to the estimate of Mr Presgrave the Pasumabs alone have about 105,200 inhabitants.‡ The western sea bord, which is here also about 25 miles broad, contains 26,530 inhabitants§ and allowing an equal density to the southern half of the mountain land, the whole region, with the addition of 1,000 Pasumabs in Pălembang (Sturler), will contain about 160,000 or 32 to the sq. m.

* According to Major Sturler the Netherlands Province of Palembang contains 250,000 inhabitants, but this includes part of our pure Malay and Serawi regions.

† Francis. Two of the inland districts, Rejang and Ampat Lawang, respectively contain 10,003 and 14,016

‡ Mal. Mis. This we suspect is excessive.

§. Francis:

VI. *Orang Lampong.*

This race inhabits the most southern portion of Sumatra, including the termination of the great alluvial plain and the last ranges of the mountain belt. The whole comprises about 8,280 sq. m. divided in nearly equal proportions between flat and elevated ground,* and the population amounts to 92,900 or about 11 to the sq. m.

THE NORTHERN RACES.

VII. *Orang Batta'.*

Next in place to the Malay region on the north is that of the Batta'. Their range extends from the country of the Rawa on the river Rakan on the east side, and Natal on the west side, as far north probably as the latitude of Diamond Point on the east and Gunong Abong Abong on the west, but the boundary line between them and the Achinese in the interior is either insensible or unascertained, and in our estimate of territory and population we shall take a line extending from G Luse to the northern boundary of Langkat, as their limit.† The only places where they extend to the sea are at Bila and Pani on the east coast and from Tabayang to Kalang on the west coast. Allowing for the country occupied by Malays, the length of the Bata region is about 240 m., the average breadth about 68 m., and the superficies nearly 17,000 sq. m. It may be properly divided into three parts, the first extending from the southern boundary to a line drawn from the mouth of the Bila on the east coast to the southern coast of Tapanuli Bay on the west coast. The Batta' portion of this, comprising nearly the whole, is a rhomboid, 116 miles broad and 80 miles long, and with a surface of about 7,500 square miles. The middle division extends from this to a line drawn across the island from the mouth of S. Balagi on the east to the mouth of S. Singkel on the west, giving a length of 80 m., a breadth for the Batta' portion of 65 m. and an area of 5,200 sq. m. The northern division is about 60 m. long, the Batta' portion 50 m. broad and the surface 3,000 miles. The Battas appear to be the aboriginal race of the whole of Sumatra to the north of the river Ba-

* This district includes the southern extremity of the Netherlands division of Bangkaulu as far as G. Pugun and a small portion of the division of Palembang. All this district and probably a greater portion of the Palembang division is inhabited by people of the Lampong race. The Lampong division contains 82,900 souls (Zollinger) and the southern district of the Bangkaulu Division, Kroe, 10,000 (Fraucia).

† Marsden in his map makes the southern branch of the Dili river the northern boundary, which is too far to the south.

rumun, a region which, under the name of Balla, constituted one of the three great divisions of the island in ancient times. At present, with the exceptions mentioned above, the hilly country along the west coast, and the low lands along the east coast, are, as we have seen, possessed by Malays chiefly, who therefore occupy here the same position with respect to the aborigines which they do on both sides of the Malay Peninsula, with this difference that the inland race of Sumatra is far more numerous, civilized and independent than the Binua. The relative positions of the original and intruded races find a closer parallel in many parts of Borneo. As the plain around lake Sinkara was the nursery of Malayan civilization, so the country in which the great lake of Ayëk Tawar lies was probably that where the Batta' civilization developed itself.* It was from the borders of this lake that the Battas extended southward towards the country of the Rawa. We are not yet in possession of sufficiently accurate information to define the limits of the various countries and districts into which the Batta region is divided. The following list must serve for the present:

1st. Battas on the West Coast formerly subject to Malay rulers.

Kolang..	~	~	200
Si Boga	~	~	300
Bediri	~	~	300
Singkuang	~	~	1,500
Tabuyung	~	~	2,000
			<hr/> 4,300

2nd. Battas on the low land and hilly region on the east side of the mountains,

About 160 miles long, 20 miles broad and 3,200 miles in superficies, having a probable average population of about 20 to the square mile.

Langkat†	-	-	-	13,560
Balu China	-	-	-	20,000

* The raw material on which Bata like Malay civilization (both derived from southern India) operated, was apparently the rude aboriginal people mentioned above p. 347.

† The numbers which follow are rough estimates made by Mr Anderson from native information. They are either greatly exaggerated or include a considerable portion of the independent Batta' countries. The former is probably the case, as the Malay chiefs of the east coast would be prone to magnify the number of Battas subject to them. If we allow 20 to the square mile the estimate cannot be far out, as this tract is probably not so populous as the central Batta' country. Even of the reduced number we allow, we suspect a small portion only is subject to the Malays.

Dili	-	-	-	20,000
Sirdang	-	-	-	8,000
Sungi Bedagai	-	-	-	2,000
Kwala Padang	-	-	-	3,000
Batu Bara and Asahan	-	-	-	60,000

Deduct one half - 126,560*

63,280

3rd . Battas of the mountain region

a. North Division, about 60 miles long, 30 broad, with an area of 1,800 square miles and a probable population of 36,000 or 20 to the sq. m. and including the countries and districts of Batagopet, Mahtumbolan, Si Mandong.

b. Middle Division, comprising 4176 square miles† having a population of perhaps 30 to the square mile‡ and embracing the following countries and districts,—on the west Diri (in which are Si Kohtang, Kasujan, Tamongoh, Banoriah, Barusoh, and Simbatun) Tukah, (including Sipang-Rembeh, Tukah—Duloh, Tukah—Umbun) Dohrut—Nabulan, Parahbotian, Jeite-Gedong, Pagar-Sinundi, Peidundun, Pasaribu—Dohlut; in the centre the great country of Tobah (including Batumajaga, Huta-tuah, Huta—balu, Tangaran, Paripiah, Sopapei, Jeiké—kahuli, Mahtiti, Menapong, Dolok Sangun, Sinahutal, Sabushak, Butar, Bakarab, Baligah, Morang, and Uluan)§; and in the east || Tana Jawa, Simalongun, Perdimbanan (including Si Mangalām, Huala Nana, Rimbān, Sakuda, Sampu Rimbun,) Hualu (including Bagān, Si Matotang, Panğujongan, Perhatangan, Si Halla, Hubutu, Ratu Kala), Padang Lopong (including Labuan Jirong, Rianiani, Pangaram Baŕgan, Turun Kinjang, Kotik Saga, Adian Perutan, S. Jambu, Gunong Nadolop, Adian Kochi, Siŕgkor, Si Bērkota, Jong Nahilang, Lundok, Tabŕng, Sāmaibu Si Tulangbosi,

* Anderson. See note * to p. 352 above.

† We have deducted the border subject to Melays of which the population has been given, and added 576 square miles of the southern division which form part of the Tobeh country.

‡ This is described from information obtained both on the east and west coast as being the most populous portion of the Batta countries, but there does not seem any reason to believe that it is greatly more populous than the adjacent hilly country described by Mr Anderson, and if we allow it the density of Mandheling, which is well ascertained to be 30 to the square mile, we are more likely to exaggerate than to undervalue the number. To bring the entire Batta population up to Mr Francis's estimate of 1,200,000 we would require to allow this tract 200 souls to the square mile.

§ These names I obtained from Batta of Perdimbauan, inland from Asahan, and the list is doubtless incomplete and without much attention to geographical arrangement. It appears to include some places to the east.

|| Mal. Mis.

Përapahuän, Këtisong, Batu Rosa.) Ayek Korsi, (including Si Kumbäl, Saini luta, Tapianaule, Si Majuaja, Si Kopang) Ayek Daka (including Butar, Si Tulang, Mahundang, S. Alim, S. Gulasi, Guting Mälaha, Ujuk Sepinggän, Si Likasän, Butu Pani (including S. Bälia, Si Kalang, Jumärlang, Sikam, Nakupän, Nagajuang, Marsukarudang, Pälämbin, Hiri Turu, Ayik Manöt, Siŋga Sana, Pakär rumba, Stouŋger, Ruhuning, Siŋgiuŋgi, Suroŋgan, Jambu Dolok.) Batu Raŋgang (including Tŋrata', Sibutoläng, Nagori Täm-bak (including Pagar Batu, Si Pultak, Mulit, Parsarirän, Batu Mamak, Batu Gala, Si Aläktaji) Ledong (including Tirudang, Mändiling (including Päŋgaribun, Serandurong) Jänjimarja (including Mandär Pulo) 125,280

c. Southern Division, extending from the northern Div. to the Rawa country, and comprising about 6,624 sq m.

The Province of Pertibi on the east, extending at Paneli and Bila to the Straits of Malacca, comprising 4,500 square miles, the greater part of which consists of great plains covered with lalang, but including 1,800 the number who are supposed to inhabit Pani and Bila on the east coast 28,000

The Province of Mandheling on the west, comprising 1,824 square miles of mountains and vallies*... 55,000

83,000

Total - - - - - 357,860

or about 21 to the square mile.

* Francis gives 76,000 as the population of this Province.—T. N. I. 1st y. p. 44. The average [of Pertibi and Mandheling taken together is about 12 to the sq m; but the greater part of the surface of Pertibi consists of low land not found elsewhere in Batta countries. Mandheling appears to represent their general character. Since the above was written we have seen the estimate made by Dr. F. Junghuhn, who travelled in the Bata' countries in 1840 and 1841. (Tijds. v. Neerl. Ind. 10th J. p. 127.) He gives 7,813 square miles as their surface (less than one twelfth however being cultivated) and 87,205 souls as their population or 11½ to the square mile. Either, however, Dr Junghuhn confines his estimate to the tract which appears to have been the original Bata' country, or he was not informed of their extension to the south over the Dutch Provinces of Mandheling and Pertibi and to the north as far at least as Langkat. His southern boundary is a line from the mouth of the Sinkuang to that of the Bila, thus excluding the greater part of Mandheling and Pertibi. His northern boundary is a line running up the Assahan river to dessa Assahan and prolonged thence to T. Turuman on the west coast, thus excluding a region stretching 110 miles to the north, the whole eastern borders of which Mr Anderson found were occupied by Balas. Yet if Dr Junghuhn's estimate be correct for the tract which I conceive to be intended by him, and doubtless it is so, the whole region cannot contain more than 200,000 souls.

† Francis, Oppe. In 1846 Lieut. Donlebin found 169,500 to be about the population of P. Nias (Tijd N. I. 1848 p. 174). We did not notice this in time to correct the text.

Pulo Nias alone with a surface of about 1,200 sq. m. has a population of 256,000 or above 200 to the sq. m. which is greater than Menangkabau.

XII, *Orang Maruwi.*

This tribe occupies the Banya and Si Malu groups with a surface of about 600 miles. The population is not ascertained and does not appear to be great. We may allow provisionally the same rate as P. Batu or 5 to the sq. mile which will give 3,000.

It will be borne in mind that the above estimates are for the most part rough approximations. The precise boundaries between the different races have nowhere been well ascertained and are doubtless in no case so regular as we have assumed for the purpose of calculation, but we believe the relative extent of country occupied by each will be found not to vary much from what we have allowed. It should also be remarked that not only do these races blend with each other at their boundaries, many districts and villages in the northern region for instance being peopled by Malays and Battas, Malays and Achinese, or Achinese and Battas, but most of the settlements near the coast possess in addition a very mixed population of foreigners from the rest of the Archipelago, China, India and Arabia, while Europeans are found in small numbers in the Netherlands possessions, chiefly at Palembang, Bankaulu and Padang. Our result of little more than two millions for the entire population is about one half of the current estimates. The most careful of these, that of Mr Francis, is 4,500,000,* but ours is to a large extent founded on the data supplied by him and his error consists in his having exaggerated the population of the countries for which he had no data. In the great majority of cases the effect of more careful enquiry has hitherto been to reduce general estimates for particular localities, and we may therefore believe that the gross population is under rather than above two millions,

* Malays...	....	....	..	2,000,000
Rejangs and Pasumahs.	....	....	..	600,000
Lampongs	....	....	..	150,000
Battas..	....	....	..	1,200,000
Achinese.	....	....	..	600,000
				<hr/>
				4,500,000

The following Table exhibits the results of our enquiry :

	Area.	Popu- lation.	Rate per sq. mile.	Per centge of whole population.
I. Wild Tribes.....		6,000		
II. Orang Malayu				
<i>Mountains.</i>				
Menangkabau	3,000	385,000	128	
Its Seabord	1,700	64,350	38	
Sapulo Bua Bandar....	3 250	40,000	15	
Its Seabord	1,300	31,200	24	
Korinchi	5,000	75,000	15	
Rawa	1,600	25,000	16	
<i>Northern Seabords</i>				
East Coast	3,000	60,000	20	
West Coast	3,400	24,100	80	
<i>Eastern lowlands & hills.</i>	36,000	184,000	5	
Malays elsewhere		10,000		
Total	59,050	898,650	15	42
III. Orang Palembang	13,400	201,000	15	9
IV. Orang Rejang	4,500	72,000	16	3
V. Orang Serawi	4,875	160,000	32	7
VI. Orang Lampong	8,280	92,900	11	4
VII. Orang Batta				
<i>W. Coast</i>		4,300		
<i>Eastern lowlands & hills</i>	3,200	63,280	20	
<i>Mountain Region</i>				
Northern division ..	1,800	36,000	20	
Middle division ..	4,176	125,280	30	
Southern division ..	6,624	83,000	12	
Total	15,800	311,860	20	14
VIII. Orang Ache.....	22,600	450,000	20	21
Grand Total	128,505	2,186,410	17	
WESTERN ISLANDS.				
IX. Orang Engano	400	900	2½	
X. Orang Mantawei	2,240	5,000	2½	
XI. Orang Niha	1,800	286,000	160	
XII. Orang Matuwi.....	600	3,000	5	
Total	5,040	294,900	58	

Although in anticipation of the ethnographical parts of our enquiries, yet as it may perhaps be convenient to postpone these until the different regions, with their population, industry, products and commerce, have been described, I shall here draw attention to a circumstance which gives a peculiar interest to Sumatra, and which it will be well to keep in our view when engaged with particular races. Asia has two great Peninsulas advancing into the southern ocean, the Indian terminating nearly in the same latitude where Sumatra begins, and the Indo-Chinese terminating in the Malayan above a degree more to the south, or about the latitude of the middle of Sumatra. The one Lands End however is about 3° to the westward of Achin, while the other is only separated from the coast of Kampar by a land-locked and calm strait 35 miles broad, crowded with islets forming a series of stepping stones, the widest interval between which is about four miles. Whenever the inhabitants of the continent learned to use the rudest boat or raft, Sumatra became practically united to Asia at this point; but not until the art of navigation had made considerable progress in the Indian Peninsula, not until its coasting trade had long flourished and extended, and its inhabitants reached the civilization which grows with such a trade, could it become connected with Sumatra either by its navigators sailing round the Bay of Bengal or boldly crossing the open sea. The period therefore which separated the first colonization of Sumatra from Asia by the Malay Peninsula, from its first communication with the Indian Peninsula, was that which intervenes between the savage skill to make a canoe and the civilized art of building a ship. What the condition of the Indian and Indo-chinese people was before art was developed, we know from the numerous tribes that have remained from ancient times in every mountain range from the western chain of India to the eastern one of Anam, protected by their steep and forests from the absorbing and exterminating powers of surrounding civilization. The fact which I wish to be kept in mind in our further enquiries is this, that Sumatra, which must have been continually subject to the influence of Indian and Arab traders and emigrants from the time when the first voyage from Malabar or the Coromandel coast or from Ceylon discovered its gold, camphor and benjamin, has also until now, during a period of about 2,000 years at least,* preserved remnants of the aboriginal Indo-chinese people, and amongst its *hinduised* tribes, unequivocal ves-

* Large ships of the Coromandel Coast are described as crossing the Bay of Bengal to Sumatra (Chryse) by an Alexandrian author of the first century (Ptolemy of the Erythrian Sea). They appear to have belonged to Masulipatam,

tiges of the ante Hindu condition. From this point of view we may distinguish five principal social stages, although a more enlarged view will comprise others.

1st The aboriginal, barbaric Indo-chinese condition: (the Polynesian condition has grown out of this, and in different places preserves more or less of its characteristics), Ex. The Abungs and the southern tribes of P. Nias, who take human heads and cannot marry till they have acquired one or more, like the Nagas of Assam, the Kukis N. E. of Chittagong &c. The Pagai who like the Nagas &c. tatoo their bodies, adding fresh marks when they have killed an enemy, and like the Mishmees &c., expose their dead on stages till the flesh rots away from the bones, sacrifice fowls and hogs to avert calamities &c. The Orang Engano are a cruel and barbarous race divided unto communities sometimes at war with each other, and when better known will probably furnish many traits of this ethnic stage.

2d. This condition partially hinduised, or a civilized condition retaining some broad traits of the barbaric stage. Ex. The Batta' who preserve cannibalism, tatooing, shamanism &c. One section of the Malay race, the Korinchi, still live in single-housed communities in some places, like the Mishmees, Singhpooos &c. On the other hand the vestiges of Ind influence amongst the Battas are abundant, in their physical peculiarities, names of places and persons, titles and cognomens, days of the week,* alihabet, architectural remains &c.

3rd. A higher civilization produced either by a greater infusion of Indian influence, or, as seems probable, by a locality more favourable to the development of the Indo-Malay civilization. Ex. The Malays of Menangkabau. Not only are the ancient Indian influences still manifested in the same manner as with the Battas, (excepting the calendar which is now Mahamedan,) and in a greater degree, but I think the very name of the people and a peculiar mode of inheritance still prevalent to a considerable extent amongst them enable us to determine from what part of the Indian Peninsula the first port from Cape Comorin where vessels can lie safely, and to navigators of the port the discovery of Sumatra was probably due.

* The names of the days of the week are the same, allowing for dialectic changes, amongst the Batta', Javanese, Balinese and Siamese, and these identical names with two exceptions are used by the Telugus of the Indian Peninsula to this day. The exceptions are Monday (*Mongal* Telugu, *Angara* Batta', Java, *Angkhan* Siam) and Thursday which follows the *Brahispanti* bar of Bengal &c. (*Braspati* Bat. *Rispati* Jav. Bat. *Prahat* Siam) and not the *Guru* of the Telugu. It is the name for Sunday that enables us decidedly to refer the whole to southern India. In northern India it is *Rubibar*; in Telugu *Auditya*, Bat. *Haditya*, Jav. and Bal. *Diti* or *Daitya* Siam, *Athul*. As far as I am yet informed *Auditya* is at present peculiar to the Telugu on the east coast, the

their civilization came. The females are considered the representatives of the family, they do not enter their husbands *suku* or quarter of the clan (*lara*) but retain their own, and transmit it with their heritage to their children; the husband remaining a member of his own *suku*, his family (*buaprut*) in which is represented by his sisters, considering their house as his proper domicile, and transmitting his heritage to their children and not to his own. This extraordinary law of inheritance is the same as that of the higher families of Malayala or Malaya (Malabar) and there can be no doubt has been introduced by Malayan or Malayalan colonists or emigrants. No rational explanation can be given of the indigeneous origin of such a custom amongst the Malays of Sumatra.* It arose amongst the Malayas of Malabar from the circumstance of marriage being prohibited, or where customary never consummated, in the families of the chiefs. Sisters live in the same houses with their brothers and manage their families, but the brothers' children do not represent their fathers. The children of the sisters, whose paternity is unknown or unrecognized, are the successors to the position and heritage of the family.† I conceive therefore that adventurers belonging to the *Nayar* of Southern India seem to have preserved it in *Ayathwar* and those of N. India in *Etwar*. On the west coast although *Nayar* or *Noeti* is the name in common use, *Aditi* is also sometimes used. *Angara* again does not appear to be anywhere current in India, but it is in Ceylon, which is further distinguished by the use of *Erie* (from *Surya*?) and *Sandu* (*Chandu*) for Sunday and Monday. The Siamese *Chan* seems immediately referable to the Singalese name. The days are, in all these cases, named from the same objects, the sun, moon and 5 planets or their regents, but as these have several names in Sanskrit there was room for difference in choice in different parts of India. The *Adityas* are the gods the children of *Aditi*. The *Daityas* were the children of *Diti*. The sun-god (*Ravi*, *Surya*) is called *Aditya* from his mother.

* Their traditions on the subject are full of absurdities and physical impossibilities.

† "The *Nairs* marry before they are ten years of age, but the husband never afterwards cohabits with his wife. Such a circumstance, indeed, would be considered as very indecent. He allows her oil clothing, ornaments, and food; but she lives in her mother's house, or, after her parents' death, with her brothers, and cohabits with any person that she chooses of an equal or higher rank than her own. If detected in bestowing her favours on any low man, she becomes an outcast. It is no kind of reflection on a woman's character to say, that she has formed the closest intimacy with many persons; on the contrary, the *Nair* women are proud of reckoning among their favoured lovers many *Brahmans*, *Rajas*, or other persons of high birth.

In consequence of this strange manner of propagating the species, no *Nair* knows his father; and every man looks upon his sisters' children as his heirs. He, indeed, looks upon them with the same fondness that fathers in other parts of the world have for their own children; and he would be considered as an unnatural monster, were he to show such signs of grief at the death of a child, which, from long cohabitation and love with its mother, he might suppose to be his own, as he did at the death of a child of his sister. A man's mother manages his family; and after her death his eldest sister

ing to noble Malaya families first discovered or settled on the western coast of Sumatra and civilized the aborigines. The name Malaya was probably retained by all the families which these settlers founded by intermarriage with the women of the country, and hence perhaps the origin of the *suku Malayu*, several of which are found in the clans of Menangkabäu. The first application of the general name Malayu to the coast and its inhabitants, and its extension to the people of the same race elsewhere, was, we may be sure, the act of the Malaya or Kling navigators and traders and not of the aborigines who always distinguish themselves by the names of the district which they inhabit. In the Maleala language Malé signifies a mountain, Maleala a mountain region or highland,* and hence the name of themselves and their own mountainous country: When they discovered the mountainous West Coast of Sumatra they would naturally give the same name to it and its people when they found it had no native name, and that no national designation existed amongst its inhabitants. The Malays probably introduced another peculiarity of Malayala into Menangkabäu, the custom of living in separate houses surrounded by plantations (*desa, desam*) instead of villages. The Malay *dusun* which entirely resembles the Malaya *desam*, has doubtless derived its name from it also. The system of village government prevailing in Menangkabäu was probably also amongst the reforms of the Indian settlers, as it strikingly resembles their own. That the settlers were few with reference to the number of the aborigines, we may gather from the facts that they adopted the vernacular of the latter and produced no perceptible physical change in them.

4th.—The condition resulting from the uninterrupted continuance of Indian influence. Ex. The Achinese.

5th.—The condition resulting from the influence of intercourse with foreigners of different nations. Ex. The Malays of the sea ports of Sumatra, and trading Malays in general.

assumes the direction. Brothers almost always live under the same roof; but, if one of the family separates from the rest, he is always accompanied by his favourite sister. Even cousins, to the most remote degree of kindred, in the female line, generally live together in great harmony; for in this part of the country love, jealousy, or disgust, never can disturb the peace of a Nair family. A man's moveable property, after his death, is divided equally among the sons and daughters of all his sisters. His land estate is managed by the eldest male of the family; but each individual has a right to a share of the income. In case of the eldest male being unable, from infirmity or incapacity, to manage the affairs of the family, the next in rank does it in the name of his senior¹²—*Buchanan Hamilton*.

* Maleaw, a highland town, or town of the highlanders or Male people. Mar-

THE BATTAS OF MANDHELING AND PERTIBI*.

By T. J. WILLER, Esquire, Assistant Resident at Madjapahit.

CHAPTER I.

Appearance of the Province of Pertibi, its population, surface, climate, rivers, roads and means of transport.

Travelling from Ankola to Padang Lawas, we find near Pichér Kolling, a tolerably high mountain, here called Adian Nagungan, but bearing as many other names as there are roads over it. Excepting the summit, where there are some open spots, the whole mountain is clothed with gigantic trees, gigantic swinging plants, and an endless diversity of shrubs, all which form a wild, sombre and impressive whole. At every step we find traces of elephants, rhinoceroses and tigers, which, although seldom seen by day, come at night to feast on durians, with which, during some months, the roads are strewn. Whole communities of apes have here established their kingdom; the most beautiful and many coloured birds wave their wings in numbers throughout this wilderness. Such also is the appearance of most mountains in this portion of Sumatra.

Go Polo describes the great city *Malaiur* on Bentan which was the principal Malay Settlement in the Johore Archipelago before Singapore was founded. The *Malayu Kolon* of Ptolemy which Mr Crawford conceives to have been Sumatra, must we think have been the town of Kulom on the Maleala Coast so often mentioned by ancient travellers and geographers and which Edisi calls Kulam Malay or Male i. e. Kulam in the Male country.

* The countries described by Mr Willer are Mandheling and Pertibi, the most southerly of all the Batta' lands, and only separated from the ancient Malayan metropolis of Menangkabau by the country of the Rawa, the same people who, passing year by year through our Malacca territories into the middle of the Malay Peninsula, have already established themselves in such strength in the interior of Pahang as almost to set at defiance the power of its ruler the Bindahara. The two provinces form nearly a square of 80 miles, (the actual surface within the boundaries being 6624 square miles), stretching from N W by N to S E by S, and occupying the whole breadth of Sumatra with the exception of the seabords—the western on the Indian Ocean extending nearly from Tapanuli Bay to Ayer Bangis, and the eastern, on the Straits of Malacca, from the mouth of the Bala opposite Salangor to Pulo Rupert opposite Malacca. Mandheling occupies the western and Pertibi the eastern parts of this territory. As it lies transverse to the meridian, following the direction of Sumatra, and is somewhat elongated from N to S, it has a greater range of latitude than either of its coasts taken separately would indicate. The N E extremity is in the latitude of Cape Rachado or about 2° 30' N and its S E, apparently nearly in that of Siak and Pulo Radong to the north of Linga or about 24° N. The latitude of Singapore consequently intersects it, half of it lying to the north and half to the South of the parallel of Tanjong Changgie. It becomes therefore interesting to compare the climate and vegetation of Singapore with that of an inland region so near us. We may inform those of our local readers who

On the other side of the Adian Nagungang we come into Padang Lawas which, with the thoroughly mountainous district of Batang Onang, is locked to the higher mountains of Ankola. Although this little favored highland has scarcely any covering but lalang, the ravines and small vallies shew a certain measure of fertility; we are hence surprised that we do not find here and there a human dwelling.

It is otherwise when we have ascended Gunong Tua and cast our eye downwards from the summit Sipolpal. There we see unrolled a plain without horizon and without variety; an unbounded carpet on which the more or less luxuriant growth of the lalang makes the only diversity, and on which not a single living creature appears to move; where a tree is literally a rarity and has an appearance of stunted dwarfishness, where at the distance of miles, we descry like an oasis in the desert an insignificant thicket, or a small strip of brushwood along the banks of a marsh or stream; where a fell scorching wind blows for months together and from the numerous conflagrations of lalang generally spreads a dull glow, through which the sunlight scarcely forces itself wavering and heavy—in a word where all nature appears to have gone to an eternal sleep. Such is the appearance of Padang Lawas; as of the greatest part of Pertibi.

During our sojourn in this part it was divided into the following districts:

1st.—*Padang Lawas* (which means the wild plain) divided into the districts of

- a. *Batang Onang*, with 4 kampongs containing collectively, according to the chiefs, 160 families.
- b. *Pertibi*, 10 kamp. 315 „
- c. *Batang Paneh*, 7 „ 230 „
- d. *Kotta Pinang*, 2 „ 100 „ or 23 kamp. 805 fam.

2nd.—*Dollok*, containing the districts of

- a. *Boekit*, 9 kamp. 275 families.
 - b. *Simenabon*, 16 „ 606 „
 - c. *Simassé*, 4 „ 92 „
 - d. *Tambiski*, 15 „ 262 „
- or 44 „ 1,235 fam.

may have any desire to make personal acquaintance with the Battas, that they can do so without the necessity of visiting Sumatra, as a considerable number reside in Singapore. A small community were recently settled in Paya Lebar where they had revived a cultivation previously abandoned in this island—that of rice. A number of them have now taken possession of the upper part of Balestier valley,—ED.

3rd.—*Burumun*, having the districts of

a. <i>Ayernabara</i> ,	4 kamp.	140 families.		
b. <i>Assahatan</i> ,	10 „	370 „		
c. <i>Kayuara</i> ,	2 „	110 „	or 16 „	620 fam.

4th.—*Tambusei*, having the districts of

a. <i>Batang Sossa</i> ,	12 kamp.	775 families.		
b. <i>Batang Lobo</i> ,	13 „	670 „		
c. <i>Pariel</i> ,	7 „	215 „	or 32 „	1,660 fam.

5th — *Paneh*, almost wholly inhabited by the immigration of the chief Suthan Manedar Alam.

6th.—*Bila*, at the mouth of Batang Paneh on the east coast, respecting the population of which we have not obtained clear information.

Approximatively these two districts have together - - - - 5 „ 300 fam.

Giving in whole 120 „ 4,620 fam.

Information supplied by the chiefs forms the only and most faulty means of guessing at the number of the population, for a regular census is not to be thought of; and it is difficult to conceive an idea of the uncommunicativeness of the Battas concerning the numbers of their families, and the cunning which they exhibit in answering the most indirect questions about this. This uncommunicativeness is instigated by the chiefs from a desire to subject their communities to the smallest possible share of labour, and the fear, which they retain, notwithstanding all assurances, that the sums of money which they see us expending will have to be restored at some future time by direct imposts. Amongst the inferior men, who not long since saw their liberty reduced by mahomedan violence into an article of traffic, there remains in Pertibi a similar distrust of all foreign powers. Against such irrational prejudices neither argument nor persuasion prevails: we must consequently content ourselves with the information supplied by accident or jealousy, or have recourse to energetic measures, which at Pertibi would not compensate for the trouble.

Let us now take the family at 5 souls, and we shall have for the whole division the number of 23,100, which may be received as the minimum. If however we take into account,

the slaves, the ladangs, and the hamlets which are generally concealed in the accounts of families and kampongs, we may bring the family up to 6, and thus get as the maximum about 28,000 souls. These distributed over 300 [= 4,800 English] square miles, of which the division probably consists, will give the poor result of 93 souls to a square geographical mile [less than 6 to an English square mile.]

The naked and flat terrain of Padang Lawas offers no other diversity, than the ravines and morasses with which it is intersected. The upper soil is of the most meagre and unfruitful kind and is seldom more than half a foot in thickness; beneath it we soon come to layers of white clay, limestone, sandstone and other formations. The climate although not exactly unhealthy is extremely rough; frequently we have in the afternoon a temperature of 27° to 29° and in the night from 14° to 15° *Reaumur*. This heat is accompanied by a great dryness, which however, for want of instruments, cannot be correctly ascertained. The *gend-ing* (a violent wind) which blows over *Probolingo** (the east point of Java) can give but a faint idea of the storm, which for the greatest part of the year, day after day, bellows from the west over Padang Lawas. Like the mistral this wind has a strong dissecating power, cracking the ground and in a few minutes removing all traces of mud and rain.

Dollok consists of a single mountain chain, of which the highest points rise above the sea nearly 4,000 feet. Their pyramidal summits are naked or covered with lalang. In the vallies and woods, however, we have a great diversity of fertile soils and a powerful vegetation. The climate there is generally raw and misty.

The country of Burunun owes its fertility to the river of that name. Here the only sawas of the division are found. The land consists of a succession of woods, low mountains and plains. The climate has still a similarity to that of Padang Lawas although it is less rough. Paneh and Bila form flat marshy land on the sea side covered with impenetrable jungles of nibong; the climate is hot and very humid.

Tambusei has a soft climate. A small part is flat, marshy and unfertile. The remainder is fertile, covered with wood and clayey undulations.

A single glance at the map is sufficient to shew that the natural *debouché* of this division must be sought on the east and not on the west coast. All the rivers flow eastward.

* See Mr Rigg's notice of this wind — *A trip to Probolingo* ante vol II p 541

The Batang Panch, which falls into the sea near Bila, is navigable in the rainy season for two koyan boats from the mouth to Oristah being a distance of ten days journey; and for præus of one koyan burden to Pertibi which is a days journey further up. In the dry season the river remains always navigable to Oristah for præus of $1\frac{1}{2}$ koyans. The Burumun, which flows into the Panch serves also for the transport of rafts, but is too shallow for loaded præus. Tambuséi possesses the fine rivers of Batang Sassa and Batang Lobo which fall together into the Rokan, the mouth of which is at Tanah Puti on the Straits of Malacca. In these long and secure water roads this land should enjoy the inestimable advantage of being able to exchange its products in an easy and inexpensive manner for those of maritime trade; but it possesses, alas! neither products nor trade.

With respect to roads, the province at the time of our occupation, was miserably provided, and they are now so thickly overgrown that a path of one foot in breadth has been kept open with difficulty. Our need for bridges and roads is altogether strange to the Batta'. Of his own motion he will never form the smallest path. The paths must be made in a natural manner by buffaloes and passengers who walk constantly to and fro in the same direction. Such paths are often sufficient on dry soil, where the vegetation only reaches a height of a few inches, although they are nearly inaccessible for the stranger as soon as the lalang grows up. The Batta' concerns himself very little about this, he creeps where he cannot walk, and if the sudden rising of a river cuts off his path, he remains patiently waiting till it has subsided. The maintenance of roads and bridges appears to him an unnecessary trouble. Neither carriages nor beasts of burden are used in these parts. The only means of transport consists in the service of coolies.

CHAPTER II.

View of the Province of Mandheling &c.

The appearance of Mandheling is as luxuriant and varied as that of Pertibi is dead. True, the southern Ulu consists of high and naked mountains, over which the lalang again spreads its monotonous mantle, where hamlets and cultivated tracts appear to be stuck on frightful steepes, where unfruitfulness and poverty have established their hungry seat. True also, the northern Ankola shews some dry and desert places like those of Padang Lawas and Dollok. But for the rest, the division consists of one chain of beautiful vallies which hem the banks of Batang Gadis between the central moun-

tains of Sumatra, and, like that fine river, become broader and broader the further we proceed to the westward north. The high chain of mountains are covered to their summits with stately woods which produce abundance of timber and other valuable articles. On the lower mountains too, woods are here and there dispersed, and these are commonly adorned with the areen tree which furnishes a wild palm-wine, while some bare red spots occasionally indicate gold mines, which however can seldom be considered as signs of true prosperity. We may more safely give way to satisfaction when we see the well watered rice fields which, in small vallies like amphitheatres, climb up a considerable portion of the acclivities, and in the distance extend to an invisible boundary. Nowhere does the landscape weary. The eye rests constantly on ornamental groups of bambus and various trees, or on the small clumps in which the kampongs lie concealed, their positions indicated by an abundance of coconuts and pinangs. The coffee gardens which we see in the plains evince a first development of industry, which is further shewn by good broad roads and tolerable bridges. Towards evening we observe near the kampongs numerous herds of buffaloes, cattle and goats; while men, well fed and well clothed, and, what is still more, a superabundance of children, prove that in this favoured region the greatest prosperity has reigned for some years.

The division consists of the following districts:

1st.—*Great Mandheling*, containing a surface of 25 square geographical miles* and having as districts:

a. *Kottu Siantar*, with 43 kampongs and containing 3,221 households.

b. *Penyabungan*, 20 kamp. 1,172

— 63 kamp. 4,393 households

2nd.—*Little Mandheling*, 20 square geographical miles having as districts:

a. *Sing-ing-u*, 7 kamp. 564

b. *Tambangan*, 11 „ 794

c. *Tamiang*, 7 „ 574

d. *Menambin*, 11 „ 1,021

— 36 „ 2,953 „

3rd.—*Ulu*, having as districts:

a. *Pinyonghei*, 5 kamp. 102

b. *Simpan Mendampa*, 6 „ 249

c. *Batang Gadis*, 13 „ 351

* Dutch. — 24 „ 702 „

4th.—*Pakantan*, having as districts :

a. *Pakantan-*

Lomba, 8 kamp. 474

b. *Kotta Bukit*, 1 „ 317

— 9 „ 791 „

These 2 divisions contain together about 9 square miles.

5th.—*Ankola*,* 60 square miles, having as districts :

a. *Ankola mudik*, 15 kamp. 719

b. *Ankola Jai*, 24 „ 638

c. *Sipirok*, 26 „ 916

— 65 „ 2,273 „

Total 197 „ 11,112 „

Considering that our data here are somewhat more exact than in Pertibi, and that many slaves live separately as *uṅṅṭuṅḍiṅḍi*, a family cannot be estimated at more than five souls, so that the population may be reckoned as 55,000 or at the utmost 60,000 souls. The greatest aggregation has naturally taken place where cultivation could best develop itself. We find also in proportion to the surface, the largest and most densely populated kampongs in great Mandhelings, such as three which have 300 to 400 and a number having 100 families.

The oval valley which forms the most important part of the country is enclosed on the west side by the hilly region of the Merapi, and on the east by that of the Malea,† and may be about 5 or 6 leagues in length and somewhat less in breadth. Its whole form, as well as the constant layer of flints and pebbles which we find below the upper soil, countenance the conjecture that the Batang Gadis formerly formed a great lake here, and not till a later date forced for itself an outlet to the west coast. Putting aside the *sawas* which constitute the real riches, and the extended fields adapted for the breeding of cattle, the soil can only be considered favorable to a few products. The temperature is here peculiarly regular. By day it seldom rises above 25°; at night it seldom descends below 18° of Reaumur. When the atmosphere is clouded we have at mid-day commonly not more than 20°. About the equinox strong winds prevail; although generally

* The name of a town on the Malabar Coast Ed.

† Gunong Male or Malea. See p. 365 *ante*. Ed.

there are more calm than windy days. The heavy rains come with tolerable regularity when the sun crosses the line. In the dry season it seldom happens that a month passes without rain. The climate cannot be called very salubrious. Fever prevails very frequently and very generally.

Little Mandheling possesses the valley of Singingu, of which the extent is about one-half of that of Great Mandheling, besides a number of small valleys, some of which cannot be termed more than broad ravines. The climate agrees sufficiently with that of Great Mandheling, although it is more cool and windy. The flat portion is entirely used for *sawas*, and these not being sufficient we see the dry cultivation spreading higher and higher up the mountains, in proportion as Ulu is approached. Throughout the whole country we find in the plains as well as on the mountains, here at a greater, there at a less depth, a layer of red and very compact clay, which, on old jungle or kampong grounds is covered with fertile, although sometimes with barren meagre soil. The grounds of the gold mines are the poorest of all.

Respecting the condition of the ground of the unfavoured Ulu enough has already been said. The climate is there severe and stormy, but healthy. The adjacent Pakatan consists of small villages, lying very high fertile, but too small ever to serve for the nourishment of a considerable population. The two Ankolas and Sipirok contain the great expanse of the west coast to the frontier of Pertibi and from Mandheling to Tobah. We there find soil of different qualities, very little of the land cultivated, and all the remainder a complete wilderness.

The mouth of Batang Gadis near Sinkuang on the west coast, was stated in former times, to be accessible for coast navigation, but after more recent examination the contrary has been alleged. Besides, the river at a day's distance from the capital Penyabungan, has, from the slope of its bed, an arrowy stream, and then a greatly contracted narrow, in which cataracts exist. This unfortunate circumstance deprives the country of the beautiful debouche which at the first glance we should think nature has granted to it, and by which it would be enabled to exchange, at the sea, its superfluous rice for salt and other necessities, and to attain the highest pitch of prosperity; and this the more because the great Ankola river, which on this side of the narrow joins the Batang Gadis, is also navigable for some days journey.

On account of the unfitness of Batang Gadis, there only remains for trading communication with the coast, the roads in the central mountains, of which the lowest pass may be es-

timated at 3000 feet, and wherein hitherto no other means of transport has been made use of except coolie labour. In the commencement of 1845 the road from Natal to Penyabungan, by a judicious alteration, was reduced from 8 to 6 stages, one of which is by water on the Natal river; on this side of the mountain a carriage road of one stage has also been made: so that in this distance there now only remains four stages for cooly labour. Notwithstanding these important improvements, which will probably be further extended, it appears to be certain that for the development of the industry of Mandheling, a produce high in value and small and light in bulk, will always be preferable.

CHAPTER III.

Physical, Intellectual and Moral Character of the People.

The inhabitants of these countries are muscular, square built and strong, but averse to all severe labour. In general they are smaller than their progenitors of Tobak; the men are generally better built than the women, and so far as can be judged, cold in their temperament. Seldom indeed is a real beauty to be found amongst the women. Very early, and almost without an exception, the form, the face, the skin and the hair undergo deterioration from labours not adapted to their weakness, and which have to be carried on for the most part in the open air. It is difficult to accuse the women here of coquetry. Their gait, gestures or voice seldom attract a favourable regard, and if a significant glance sometimes produces an impression, it betrays either immodesty, or a secret grief which asks for pity,—never the agreeable and habitual desire to please which elsewhere places the sceptre in the hands of the fair sex.

In the elevated districts, as in other mountainous countries, we find many goitres. It has already been mentioned that fevers often prevail here. Syphilis is only known in our capitals. Cutaneous diseases occur in manifold varieties, from the simple scabies to leprosy under which whole portions of the body drop off. The simplicity of the mode of life and of the food, have moreover this consequence that very few other kinds of sickness prevail, and that most cure of themselves or by the exhibition of the simplest medicines.

Women as well as men are inconceivably steeled against fatigue and privations. Heavily laden, they day after day perform long journies on foot; and during the war it frequently happened that whole communities remained for months in the wilderness without houses, salt, or other food than leaves, roots and wild fruits. Under such misery the weakest are overcome, or fall later on the first attack.

The Batta' are not deficient in intellect. They have a true and keen memory, and, so far as it is not falsified by foreign influence, by passion or superstition, a sound and strong judgment respecting all matters which fall within the circle of their comprehension. In their assemblies they manifest now a grave, and now a lively, eloquence, which generally remains free of bombast. They are very able and very exact in their narrations, provided they be not interrupted in their discourse, for they have great difficulty in taking up the simplest link.

In a population so calm in temperament, the number of insane persons deserves attention, the moreso as, from their laws, it appears that in former ages it was no better in this respect, and many families may be found in which insanity has been hereditary for some generations. Constant melancholy, sudden perplexity of spirit, total furiosity,—all these phases, and the degrees which exist between them, appear frequently. It is also ascertained that the cases on the mountains and at their feet are more numerous than any where else, but this ought to be brought to the proof of statistical examination. In Holland and France the number of the insane is in proportion to the population, if I do not err, as one to one thousand;—while here you seldom pass a day in any Kampong without meeting one or more idiots. As far as concerns Great and Little Mandhelung we can state, from the facts communicated to us by the heads, that, one with another, at least one insane person is to be found in each Kampong, and this gives for 100 Kampongs with 7,300 families or about 36,800 souls, the distressing proportion of 1 to 368. This is the more remarkable, if we adopt the opinion that the highest stage of civilization, where the passions are most developed, produces also the greatest proportion of insanity, while a lower stage has just the contrary effect. Neither want, nor stupifying liquors, nor ambition, can be considered common predisposing causes in this country: under correction, I should suspect the causes to be in the frequent fevers, the gambling, and the hard lot of the women.

For the rest, the character of the Battas is a mixture of virtues and vices, like that of all mortals; with this however the scale inclines towards the good; because they have long remained free from foreign contagion.

Laying aside gambling, there are scarcely any passions, which exercise a considerable influence upon them. Love with them is pacified by an early marriage; polygamy, the soft nature of women, and their great industry, in general preserve concord during the whole marriage. The articles *mermayan* and *menyompo* contained in the laws give the best evidence of

the chastity of the young women ; let it ever be remembered, that in those parts of our father land, where courtship above the blanket is maintained the longest, the manners are the most innocent. There are few or no exceptions to the chastity of the married women. Further the Batta' knows neither immodest dances or songs, nor immodest assemblies of men and women, and prostitution, beyond our capitals, is an unknown thing to him. Protected likewise, in and out of marriage, against the temptations which elsewhere excite to voluptuousness or inflame jealousy, desire but seldom leads the Batta to the crimes or numerous follies by which others embitter the best half of their lives.* His tranquillity is as little troubled by ambition. His birth has placed him in a social position, in which he can raise himself very little, and which he cannot surmount without a revolution. He loves the palm wine, so generously granted to him by nature, but even in his feast days he makes little use of it, and daily drunkards are nowhere to be found. He knows other liquids as little as the use of opium. Although free from high placed ambition, he possesses the feeling of honor ; his humility towards superiors is friendly and becoming but never slavish, he will not suffer defamation or insult, but washes them out by the lawful means which his country's institutions assure to him.

However saving in disposition, he is hospitable to travellers, and benevolent towards relatives or the indigent of his own tribe.

In his social relations he manifests great honesty, and in general also uprightness and love of truth, although it is his birthright prudently to answer one question by another.

All his family relations are marked by great amenity and purity of manners ; honor and respect from the younger to the older, tender care from the older to the younger, love and mutual accommodation from man to woman, (however little that might otherwise seem to agree with her hard labour), liberality towards slaves,—are so many bonds which in most families secure daily happiness.

In his public life he shows a true patriotism ; neither the chiefs nor their followers divide their interests from the general welfare. He is truly attached to his native soil ; only great misfortunes, slavery or want, can bring him to say farewell to it, and banishment is nearly assimilated to a sentence of death. He is equally attached to the institutions of his forefathers, and it is sufficient for him that the sentence by

* The Malay races of Ulu cannot make the least claim to this chastity ; the funeral ceremonies there can testify the licentiousness of the young who at night come ostensibly to bewail the dead.

which he is injured has but the form of the *hadat* to submit to it without a murmur.

To so many national virtues is opposed the destructive passion of gambling, covetousness and excessive laziness.

The madness which gambling causes here, may be compared to that which is sometimes observed at European gaming tables. The difference is only that the desperation ends there in bodily, and here in mental, suicide. The Batta' who has lost everything goes on till he has played away the liberty of his wife, his children and his own person; even when fallen into the state of slavery he gambles for food and clothes when he finds an opportunity. It may be recorded as a fact that here every inhabitant is addicted to gambling, although not in the same degree. The worst of it is, that minors are not excluded from public gambling, and very often must pay for their inconsiderateness with their own liberty and that of their parents besides. For a short time reclaiming measures have been taken by us which hitherto appear to prosper. The kinds of gambling are too numerous to be mentioned here. The principal are cockfighting with betting, and the jagong gaming.

The national covetousness shews itself in a tenacious gripe of money, and in inferiors works more against themselves than against others; in the higher classes on the contrary it works outwards, and shameful extortions and frauds upon mens liberty are with them the order of the day, when European interference does not put a stop to it.

If it be true that proverbs express the wisdom of nations, then Batta' wisdom consists in flying from all labour. At least what we should term animal laziness, he knows how to adorn with a number of proverbs as philosophical indifference, such as—"My father has not planted for me: why should I plant for my son?" In the meantime, too lazy to irrigate his sawas at the proper time, he suffers the good moment to pass and loses his harvest;—but what loss? he borrows as long as he can, and pawns his defenceless relations. Too lazy for the plough, too lazy for the *patyol*, which are given to him gratis, he recklessly deprives himself of their use, and takes upon his neck severe reprimands; but what loss? he wants not ingenious pretexts to cover the true reason;—as that the plough has to be managed by him and not by his wife, and that the *patyol* requires too much motion. Too lazy for a sober exertion of a few hours, he sets himself against each order for coolie-work as against a real misfortune;—but what loss? he has established a regular agiotage which mostly agrees with the gambling; has he been fortunate

or has he means beside the gambling, then he purchases his liberty for a stipulated price, and twice to six times that amount. Has he nothing ? Then he pawns his relations once more, to save himself from fatigue. Too lazy to milk his cattle, too lazy for the amusements of fishing and hunting, and almost too lazy to cook his own food, he satisfies himself with *jagong* and suffers many privations, but what matter ? He buys on credit a *wife*, and extorts from her as much work as another person would extort from his beast of burden. Always before her time she is old and wrinkled, and while she, a weak woman, toils under domestic and field labours, he, a man, sits with the child on his knee, smoking his cigar when he cannot find any other mode of killing time, as gambling, pleading or politics.

None of these pictures are exaggerated and the shameful treatment of the women is certainly national. Certainly it would be a slander on the nation to ascribe all these modes of laziness to the whole mass, but the number of individuals who are afflicted with it is so great, that they may be justly taken as the means of judging of the character of the nation. Generally only misery or force can compel the native to a lame and careless labor which decreases according as the spring loses its force. The principal reason of the vice, as will afterwards be shewn, must certainly be sought in the institutions, and by the amelioration of these, the Batta' in no long time will be as little governed by laziness as the other Indians.

With respect to courage the Batta' certainly possesses moral courage to oppose to misfortune patience. He shows intrepidity in swimming, climbing and fatigues ; he seeks for the elephant, the rhinoceros and the tiger in the jungle, and kills them with his imperfect weapons, but whether he can make a claim to courage in battle remains very doubtful. The former contests between one community and another were nothing but duels of masses, and improbativ in their nature, and at the time of the usurpation of the Padries the parties were in too unequal force to draw unfavorable conclusions from defeat. But if all indications be put together it appears clearly that the Battas are not possessed of inborn martial fire like the Bugis and the Makassars ; and that on the other hand, their fidelity and submissiveness to their heads, joined with a hardihood to meet privations and fatigues, enabled them to render good services in the war under good leaders when they are employed as auxiliary bands.

(To be continued.)

THE POPULATION OF THE INDIAN ARCHIPELAGO.

By SPENSER ST. JOHN, Esq.

THERE exists so great a difference of opinion, as to the total amount of the population of the Eastern Archipelago, that it may be both an interesting and useful enquiry, to endeavour to arrive at some conclusion on the subject, and in order to reach as near the truth as possible, I would invite the readers of your valuable Journal to a quiet discussion of facts, and urge them to an increased zeal in pursuit of more extended knowledge of the Indian islands and their inhabitants.*

It may be asked "How is it possible to state the population of countries which are so slightly known, or not known at all."?

I answer—Although unable to ascertain minutely the number of the population, we may nevertheless approximate to the truth, by consulting and comparing the best authorities, by listening with candour to the objections which may be urged, and above all by judging the amount of inhabitants, in the various unknown portions of the islands, by a comparison with those parts with which we are already acquainted.

* "You will, I am sure, give me such information as you possess, and accompany the paper with a running editorial commentary. I shall be glad if you agree with me, but likewise pleased if you state where we disagree, as great discussion must tend towards truth, and that is our object." So writes the author to us, and we quote his own words, because of the excellent spirit which they breathe. Finding that in breaking ground *nu* Sumatra to introduce Mr Willer's paper, we would require to ascertain the numbers of each race, we postponed reading Mr St. John's contribution until our own task was concluded. Our result we find differs widely from his, but we are strongly disposed to think it is still too high. A reference to the data cited by us will render any running commentary unnecessary on the part relating to Sumatra; the time and toil which the hunt for these through Dutch authorities has required, must be our excuse for not offering any remarks for the present on our contributor's estimates for the Peninsula, Java &c. Mr Temminck's estimate, we may observe, is not an independent one of his own based on official documents, as he leads his readers to suppose, but a verbatim copy of that of Mr Francis's in the *Tijdschrift voor Neerlandisch Indie* for 1839 which may have been originally an official document, but which Mr Temminck ought to have cited with the author's name, as he refers elsewhere in the *Tijdschrift*, and could not be ignorant that the estimate was Mr Francis's. The data for the West Coast appear to be trustworthy, and it is only when Mr Francis leaves the region with which he was acquainted, that his figures become tainted with the splendid exaggerations of Sir T. S. Raffles whom nothing under millions seems to have satisfied.

We invite all our readers, particularly our Netherlands Indian ones, to assist in the inquiry. It appears to us to be of great importance, for many purposes, to ascertain the present population of the Archipelago, and particularly the numbers of each race or tribe. We hope Mr St. John will be able to effect this for Borneo, the Philippines and Celebes:—Ed.

Here and there we may obtain the faint light afforded by native information.

For the sake of method I propose dividing these countries into groups, commencing firstly with the Straits Settlements, and the Malayan Peninsula; secondly, Sumatra, and the numerous smaller islands, with which it is girt; thirdly, the rich Netherland possession of Java, and the adjacent islands of Bali, Lombok, Flores, Sumbawa &c &c., and thus step by step, pursuing the enquiry over the entire Archipelago, and concluding with the great island of Luzon, and the other Spanish dependencies.

The Malayan Peninsula may be defined, as lying to the southward of a line, drawn from Patani to the centre of Pulo Trotto. That minute and diligent enquirer Newbold, has thrown considerable light on these countries, and taking him as our guide, we shall arrive at the following number of inhabitants, in the numerous small states, situated on or near the sea coasts, and we must subsequently make some allowance for the population of the extensive interior, of which we possess but a very scanty knowledge.

On the authority of Newbold,

Kidali contains	..	..	50,000	inhabitants.
Pera'	..	..	35,000	
Selangor	..	..	12,000	
Johore	..	..	25,000*	
Pahang	..	..	40,000	
Kemaman	..	..	1,000	
Trangganu	..	..	30,000	
Kalantan	..	..	50,000	
Patani ¹ about	..	..	30,000	
Sungei Ujong	..	..	3,200	
Rambau	..	..	9,000	
Johol	..	..	2,000	
Muar	..	..	2,400	
Orang Binua Johole..	..	..	1,000	
Orang Binua of the }	..	..	25,000	
rest of the Peninsula ²				

* Far too high; and this we suspect is the case with many of the others.—Ed.

¹ This country previously to the Siamese invasion contained 54,000 inhabitants, Newbold vol II p. 70. I allow therefore 24,000 persons to have been slaughtered, or reduced to slavery on that occasion.

² This is an assumption. Judging solely from the number of the Orang Binua in Johol, it is a very small computation, but although the length of the Peninsula is about 400 miles, by an average breadth of 120 miles, and we are aware generally that the interior of this vast space is inhabited by the various tribes of the Orang Binua and Samang, yet in the present state of our knowledge, it is better to state the population thus moderately.

Pinang and Province }	..	120,000
Wellesly ¹ }		
Malacca:	..	46,882
Singapore	..	60,000
		<hr/>
Total	..	542,482

Thus in the Straits Settlements, and the Malay Peninsula, we have a population moderately computed at something above half a million souls.

The second group consists of the extensive island of Sumatra, and the numerous islands which surround it.

A great difference of opinion, even amongst the well informed, exists as to the amount of population of this island, as it has been rated as high as seven million, and as low as two million persons.

Without venturing an opinion of my own on the subject, it will be the better mode to cite the various authorities in my possession, and to compute the population from the testimony of unexceptionable witnesses.

Marsden states that the different kingdoms are populous, but he does so in general terms, and never ventures on numbers. "Pasumah", he writes "is an extensive and comparatively populous country." Acheen, he calls "extremely" populous, and an inference may be drawn from the minute description of the laws and customs of Rejang, Lampong and other countries, that the people are numerous, for such laws are suitable only to countries, wherein the inhabitants needed their protection, and they could scarcely have existed amid a scanty population composed of small and distant tribes.

Sir Stamford Raffles from personal observation speaks of the dense population of the interior—vide Raffles's Memoirs. On visiting Pageruyong, he writes as follows. "The whole country from Pageruyong, as far as the eye could distinctly trace, was one continued scene of cultivation, interspersed with towns, and villages shaded by the cocoanut and other fruit trees. I may safely say, that this view equalled any-

¹ In 1828 the census gave 60,551 and in 1833—85,275. Reckoning the increase at this rate, we shall, in 1849, have 168,596. In moderation I have put it down at 120,000 instead of the larger figure.

² The census of 1836 gave the total population of Malacca, and its territory, including Nanning at 37,705 souls of whom the greater proportion were Malays. In 1818 it amounted only to 25,000, giving an increase in 18 years of 12,706, vide Newbold. At the same rate of increase the population may be reckoned as stated. [The census for 1847 was given in this Journal (vol. II p. 173) at 54,995. We did not recollect this in time to correct the text.—Ed.]

thing I ever saw in Java; the scenery is more majestic and grand, population equally dense, cultivation equally rich. In comparison with the plain of Mataram, the richest part of Java, I think it would rise" page 360. Again at page 363 he states, "On a moderate calculation, the population within a range of fifty miles round Pageruyong, cannot be estimated at less than a million; by the returns I received on the spot, the number appears more considerable."

Of the Batta country and population he writes. "On the whole I may say the Batta country with regard to scenery, surpasses everything I have yet beheld, it possesses a delightful climate, an extensive population, and extreme fertility," page 437; and again page 470 Sir Stamford states; "The population of the Batta country far surpasses my expectation; it can hardly be less than a million and a half"*

Next to this testimony of so enlightened an eye witness follows the authority of Mr Anderson in his "history and description of the east coast," and this gentleman gives the names of numerous towns and villages, and concludes by remarking "I am disposed to think, that 350,000 inhabitants is a moderate estimate of the population on the East side of the lofty ridge of mountains before described, and between Diamond point and Siak, with its tributary and dependant states on either side."

The "*Moniteur des Indes*" vol I page 69, estimates the entire population at only 1,847,000 and is directly opposed, not only to every authority we have already quoted, but to Monsieur Temminck likewise who rates the population at 4,500,000. This would be a sufficient reason for rejecting this table, as it is unaccompanied by any explanation, or unsupported by any authority, and I do not hesitate to do so, as the second table is contradictory of the first, the Netherland portion of Sumatra, being stated to possess a population of 1,682,000, and therefore making no allowance for Acheen, for a large portion of the Batta country, the country of Menangkabäu, and other independent countries, at that time, which on good authority we have shewn to be very populous. The authority of Monsieur Temminck, is not only the latest we possess on the population of Sumatra, but is founded on official documents, and in strict accordance with our previous authorities.†

The population is calculated by him as follows:

Achinese from Barus to Siack 600,000

Battas from Achin to Rauw 1,200,000

* We believe Sir T. S. Raffles's personal knowledge of the Batta' country was limited to a visit to the coast of Tapanuli Bay—Ed.

† See our remarks on Mr Temminck's authority, ante p. 380 note.—Ed.

Malays of the Coast and Interior from Barus to Indrapura on the West Coast and from Siak to Palembang on the East Coast	2,000,000
Rejangs, Pasumahs, &c.....	600,000
Lampongs and part of the S. E. Coast	150,000
	<hr/>
	4,550,000

and this total number tallies with the following rough calculation founded on the observations of English authorities :

Achin	600,000
Fifty miles round Pagernyong	1,000,000
Remainder of Menangkabau.....	500,000
Battas	1,500,000
Diamond Point to Siak	350,000
Bencoolen	25,000
Palembang, Rejang, Lampong, Pasumah, &c.	600,000
	<hr/>
	4,575,000

This close approximation of the Netherlands official documents, and the numbers given by Monsieur Temminck in vol. II p. 2, with the general account given by English writers, may convince us that the total amount of the population of Sumatra is about 4,550,000, and we may without further delay proceed to ascertain the number of inhabitants residing at the various islands in the vicinity as follows :

Pulo Nias ¹....	..	250,000
Batoe group ²....	..	3,270
Poggy, Engano &c. ³....	..	10,000
Linga, Bintang, Dryon, Singkip, Karimon &c. &c. ⁴....	..	100,000
Bauka ⁵....	..	40,000
Billiton .....	..	7,000
Anambas group..	..	3,500
Aor, Tingi &c. &c. ....	..	1,000
	<hr/>	
Islands.. .. total..	..	414,770
Sumatra.....	..	4,550,000
	<hr/>	

Total of Sumatra & adjacent islands 4,964,770

¹ Sir Stamford Raffles states it at 230,000 but we have taken the authority of Mr Oppe, who makes it from 250,000 to 300,000.

² Temminck.

³ Moniteur des Indes. M. Temminck does not estimate the population of this group as there are as yet no official returns on the subject.

⁴ On the authority of Temminck 88,000 in 1840, the islands being at peace, and no longer much exposed to the incursions of pirates we have allowed an increase of 12,000 in 9 years.

⁵ Temminck gives 35,000; increase allowed only 5000 in 9 years, on account of climate and the description of labour.

It will be easier to compute the third division of our task, which includes the island of Java with the small islands round it, besides Bali, Lombok, Sumbawa &c.

The population of these islands may with a great degree of certainty be set down as follows :

Java and the small islands around ¹	9,560,380 in 1845.
Increase in three years and a half ²	500,300
Bali ³	900,000
Lombok ⁴	250,000
Sumbawa ⁵	200,000
Floris	278,000
Solor, Adenara, Lombatte &c. &c.,	157,000
Sumba or Sandalwood is land ..	425,000
Timor ⁶	639,000
<hr/>	
Total of third division.....	12,909,380
Malayan Peninsula &c.	562,482
Sumatra &c.	4,961,770
<hr/>	
Total of three divisions.....	18,436,622
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¹ This is the census of 1845 as given the *Moniteur des Indes*, Vol. II p. 31. [See Dr. Bleeker's estimate and remarks vol. I of this Journal p. p. 75, 76. —Ep]

² This increase is calculated from *Moniteur des Indes* Vol. II p. 28.

³ Temminck Vol I p. 340 gives the number at 800,000. Mons Van Den Broek in 1818, reckoned the population of this island at 987,500, which is reduced in the *Moniteur des Indes* to 738,000, by reckoning 4 persons to give 1 fighting man, which is evidently a very low estimate. Allowing for a small increase we have taken the medium of these authorities.

⁴ *Moniteur des Indes* Vol. II p. 283.

⁵ *Moniteur des Indes* Vol I p 70. The table from which this number is extracted is certainly not exaggerated.

⁶ From the same authority.

REVENUE, EXPENCES AND TRADE OF RHIO.

To enable our readers to compare the condition of the neighbouring Dutch Settlement of Rhio (*Riouw Dutch*, *Riäu Mal.*) with that of Singapore we translate the following particulars from Temmick's Possessions Neerlandaises, vol. II p. 110.

Rhio was declared a free port by a royal decree dated 10th April 1824. The revenue from articles farmed out was in 1819 *florins* 10,200, in 1820 *f* 16,920, in 1821 *f* 22,980, in 1822 *f* 34,600 in 1823 *f* 54,060, in 1824 *f* 157,560. The great difference between the two last years is owing to gambier and pepper having been sold on account of government. In 1824 these articles were farmed out. The expences this year were calculated at *f* 120,000. The accounts for 1845 shew the receipts and expences of the islands of Rhio to be as follows.

Receipts.

Articles farmed.....	<i>f</i> 145,600
Assessment and land taxes.....	37,200
Impost and divers revenues.....	27,000
Miscellaneous revenues.....	500
Total <i>f</i>	210,300

Expences.

Department of Justice, Civil Administration and Police.....	<i>f</i> 59,240
Agriculture, Religion, Sciences and Arts.....	2,352
Finance, Cultures &c.....	10,318
Pensions and Charitable institutions..	564
Miscellaneous Expences.....	60,500
Total—<i>f</i>	132,974

Imports of products of Java and Madura in 1845.

Merchandise.....	<i>f</i> 1,995,312
Specie.....	109,632
Total—<i>f</i>	2,104,944

Exports of products of Rhio to Java and Madura in 1845.

Merchandise.....	<i>f</i> 858,082
Specie.....	1,400
Total—<i>f</i>	859,482

THE
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THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

ROUGH NOTES ON THE GEOLOGICAL AND GEOGRAPHICAL
CHARACTERISTICS OF THE TENASSERIM PROVINCES.

By EDWARD RILEY, Esq.

THE following rough memoranda are intended to supply the want of information, geographical and geological, which the necessarily defective chart of these Provinces does not afford; and in the absence of more scientific exposition regarding the physical characteristics of the country, they may serve to direct a more particular attention to the development of its various and valuable resources; a practical knowledge of which, after nearly a quarter of a century of occupation, is so lamentably deficient, that up to the present period, with the exception of the able reports of Captain Tremeneere on the coal, tin and manganese of the lower Province of Mergui, we possess no established data to serve as a guide to any scientific research and demonstration that may hereafter be instituted.

The Coast line of the Tenasserim Provinces extends from the Pak-chian river in $9^{\circ} 58''$ N. to the Salwin river in $16^{\circ} 36''$ N. the latter forming the boundary between Burmah

proper and the British Territory. Throughout its whole extent, Islands of various magnitude occur, generally within a short distance of the shore, of which from sea-ward they appear to form a part. The island of Belugyun situated opposite Maulmain, is by far the most important of all. Separated only by one of the mouths of the river from the metropolis, with rich alluvial lands of surprising fertility, (when the rude process of cultivation which prevails is considered) and a greater number of inhabitants in proportion than any other portion of the Provinces, these advantages combine to render it the granary of the Province of Amherst. From this point the Islands are few and isolated until the latitude of Tavoy Island in 13° is attained, from the southern extremity of which those numerous groups of Islands forming the Mergui Archipelago may be said to commence; innumerable in numbers, of all varieties of form and size, separated from each other by shallow mud banks, which oppose a complete barrier even to the native traders, and consequently, with the exception of those on the sea board track possessing water, little known or frequented.

The large Islands of St. Matthew, Domel, King's Island, Tavoy Island, and farther to the northward those of Kalagouk and Double Island, present an evenly undulating outline, clothed to the summits with jungle vegetation of noble proportions, and varying in altitude from 100 to 450 feet. Interspersed with these, extending as far as the Mascoes group of small islands off the promontory opposite Tavoy, limestone rocks occur, whose perpendicular sides and rugged summits contrast boldly with those of rounder outline: these rocks are cavernous, having in some instances open passages through them, all are bare of vegetation and form the resort of the sea bird from whose labors the edible nests are obtained. Rock specimens from the Islands above noticed exhibit a predominant granitic and porphyritic character, invariably associated with fragmentary trap rocks, principally greenstone, with lines of quartz of various dimensions passing through the mass in all directions; at the base, covered by the high water of the spring tides, lie masses of laterite of various stages of induration, but possessing a uniform highly cellular structure. On several of the larger islands broken and disseminated masses of the "hypogene schists" occur, with their various modifications consequent on their proximity to, or distance from the granite of the main formation, and all more or less permeated by lines of quartz and granite;—the latter very fine grained and

containing a large proportion of hornblende. These blocks correspond in their general features with similar masses found on the main shore.

The direction of the ranges of the insular hills is parallel to that of the hill ranges on the main land, nearly N. and S.; and the stratified rocks observe the same angle of dip and conformity of position as their congeners on the shore where littoral sections are found;—it may thence be concluded, that the same subterranean forces which erected the chain of mountains dividing the Peninsula, must have operated at the same period to produce the hill ranges of the Islands. Connected with this subject it has been remarked, that granite which forms the prominent feature in the formation of the Islands, with an altitude, as in the instance of Double Island, of only 97 feet, is said to be rarely found either in the mediate or main ranges of the Coast which approach to the height in some instances of 5,000 feet.

Various speculations have been entertained and as many theories advanced on the subject of laterite formations; the fact however of their being found more generally in conjunction with rocks of the primary order, and superimposed on granite or gneiss, affords a basis upon which to ground a system of observation that may tend to elucidate the subject, and as this Coast offers peculiar facilities for such observation, from the general prevalence of the rock in question, I shall here state the result of a series of observations, which have been prosecuted to that end.

The minute examination of the rock specimens from the Islands with which the laterite is associated, as well as those from the main shore, exhibits a slightly varying relation to each other in their unstratified granitic character, less so however in the gneiss where the mica and hornblende occur in the same lamina; in the former, especially in that forming veins in the schistose rocks, the hornblende and felspar predominate. Such in fact may be said to be the character of the whole of the granitic masses found on the Islands, with the exception of those disseminated masses in which the presence of quartz, in large aggregated crystals, gives the rock a decidedly porphyritic character. This is the principal form of igneous rock of which Double Island is composed, the ingredient being quartz in laminae forming cuboidal masses with glassy felspar and hornblende, both large grained and irregular, hence it may be termed a sienitic porphyry. The atmospheric action upon both hornblende and felspar, owing to the large portion of oxide of iron in the for-

mer, and the components of potash and alumina of the latter, is too well-known to require more than a passing notice here. Based upon this data, my attention has been particularly directed to the decomposition of those rocks in which the above minerals form a part, and although the homogeneous nature of the deposits formed by their decomposition does not admit of a clear insight into their mechanical construction, it may nevertheless be concluded, that laterite in all its modifications, is but the resultant of such decomposition. This operation is distinctly traceable in a decomposing gneiss rock forming the overlying strata on the coast of this place, (Amherst); the atmospheric influence has penetrated the rock to a considerable distance below the surface, giving it a mottled appearance, but on any new abrasion of the bank by the action of the waves of the S.W. monsoon, the strata are seen distinctly laminated, with the hornblende and felspar in a high state of decomposition; their complete reduction is effected in a short period after exposure to the heavy rains of the monsoon which percolate the mass and precipitate it to the base, where the undecomposed quartz finds a matrix, which, under a subsequent chemical process brought into operation by the combined influence of the atmospheric action and the oxide of iron of the hornblende, becomes indurated and compact or cellular, according to the ingredients of the rocks, from the decomposition of which they were formed. Laterite occurs very generally throughout the Provinces, accompanying the old red sandstone and the formations of the primary order before mentioned; it is seen cropping out at the surface in isolated masses which are highly ferruginous and indurated; it also occurs loosely aggregated and permeated by quartz veins of 1 to 3 inches in thickness.*

* One species of lateritic rock origiostes to the mode explained by our able contributor, and it is natural to conclude with respect to lateritic rocks generally, that when the results are so nearly identical in appearance, the process must have been the same. Mr Riley's explanation we believe to be perfectly correct for the laterites which he describes; and many lateritic tracts in India, as well as some of those which we have examined in the southern part of the Malay Peninsula, have been produced in the same mode. The extension of this explanation to all other rocks of a lateritic aspect, if it can be properly called an error, is one which our contributor shares with many Indian geological writers, amongst whom Dr Clarke has most elaborately applied it to the laterites of the Indian Peninsula (Madras Journal, 1838, p. 334-346). In reality the error is not in the explanation, but in the assumption that all laterites must have the same origin. This assumption, and much of the conflict of opinion respecting laterite, is traceable to the remarkable property which iron possesses in peroxidizing, of assimilating the external aspect, and even to a certain extent the structure, of the rocks in which it is disseminated, however they may have differed

Passing to the coast, its appearance seaward is that of a plain of a varying breadth, backed by a series of mountain ranges; those nearer the coast having an altitude of 500 to 1,500 feet, and those which form the main range, approaching the height of 4,500 to 5,000 feet. These ranges have a uniformly undulating outline, and otherwise possess the same character as those in the Straits of Malacca, being covered to their summits with a dense forest vegetation: Approaching the northern boundary on the Salween river, their features become more varied, from the rugged and conical shape of the limestone hills (blue mountain limestone) which, without any general line of direction, rise abruptly from the alluvial plains to a height of 1,500 to 2,000 feet and are seen distributed throughout the landscape in isolated ranges. The same cavernous limestone is found accompanying the sandstone hills in detached masses, throughout the whole extent of coast. From this point the main range of hills, forming the boundary between these Provinces and Siam, is distinctly traceable in the clear atmosphere of the N. E. monsoon, at a distance of 65 miles, shewing a bolder outline than those intermediate with some of the peaks at a height of 5 to 6,000 feet.

Little information that can be relied upon has hitherto been obtained on the geological conformation of the main range of mountains, or of the elevated vallies traversed by the Thoungyen, Hloing, Bwai, Dagye and Houndran rivers—the principal feeders of the lower part of the Salwin* ;—

from each other prior to the peroxidation. The iron disguises the rock and deceives observers. Much of the laterite of the Malay peninsula, and we believe much of that of the Indian also, does not originate from the decomposition of plutonic or volcanic rocks, but is simply the ordinary sedimentary rock disguised by the peroxidation of the iron which rose into it from the subterranean plutonic intumescence in which the Peninsular elevations originated. The evidence on which this opinion is based is very extensive and conclusive. (Journ. As. Soc. of Bengal for 1847 p. p 520, 21; 670, 71, 79 to 81; Arch. Vol. II p. 96-103, 625-631; Notices of the Geology of the Straits of Singapore, Geol. Soc.) Ed.

* Captain Latter, the superintendent of forests, in his report on the teak localities of these Provinces lately published, thus notices the valley of the Thoungyen.

"The region occupied by the Thoungyen forests consists of an elevated valley, (about 800 feet higher than the Maulmain plains) having the Donaw range on the west, and the range called the "Toungnyo," on the east. These two ranges, slightly trending towards one another, meet, and form a sort of "cul de sac," at the bottom of which rises, and through the whole length of which, in a north westerly direction, flows the Thoungyen river. It runs parallel to the Donaw range, which sinks gradually into the plains to admit of its junction with the Salween river. The Toungnyo range, as far as I could learn, runs due north, proceeding into regions unreached by our geography. I should

the intermediate ranges of hills however, over which the route to the interior lies, are better known, and specimens obtained from them shew a highly indurated clay slate as the principal form, accompanied by mica slate and other rocks of the schistose order. Gneiss is also found in the highest parts of the range, and all indicate a close proximity to the granite. It is observed that spurs from the main range connect those of secondary altitude, which latter have a corresponding parallelism of direction N. E. and S. W.—the angle of the dip of the stratified rocks has not been ascertained, but should subsequent observation shew it to correspond with the same formations on the main range, we may from analogous comparison be safe in placing granite as the highest rock of that mountain system.

It has been generally assumed, but upon what data I have not been able to ascertain, that the range of mountains which divides these provinces from Siam, passing on through the Malay Peninsula, is a prolongation of one branch of the great Himalaya chain. The accuracy of this I am inclined to doubt from the observation of the late Dr. Richardson, who stated that in passing the border range of hills in latitude 18° , being upon one of the highest passes of that range, he observed the

estimate the whole length of this valley to be 250 miles; its width, an average of 25 to 30. The Thoungyeen, keeping somewhat closer to the Donaw range than to the Toungoyo, divides the valley into two long stripes. The one on the left or western bank being held as British, may average about 12 miles in width; the other, or Shan, about 15 or 18.

"Both the bounding ranges of Donaw and Toungoyo, together with their spurs, consist of mountain limestone, presenting all the grey and grotesque appearances and cavernous issues of sudden waters (many at a high temperature) so characteristic of that rock. Their highest portions again are of granite, but of a composition in which the felspar greatly predominates; the quartz and mica being in very subordinate quantities. It is for this reason the weathered peaks get very rapidly disintegrated, the felspar rapidly decomposing into Kaolin clay; the fracture of such points presents the dead even appearance of a clay rock, rather than the sharp and angular edges of true granite.

It is from the disintegrated felspar of these weathered peaks that were probably, in a great measure, once supplied the deposits of stiff clay, which we find playing so important a part in the economy of the Thoungyeen forests. These ranges are also said to be metalliferous.

The great underlying rock is most probably the mountain limestone, of which the Donaw and Toungyo hills are composed; but in the valley itself this nowhere obtrudes itself to view. We find there the lowermost rock to be a compact sandstone, the upper portion consisting of a concrete of small rolled pebbles imbedded in a siliceous matrix. On this reposes a deposit of large rolled pebbles, the depth of the bed varying from 8 to 14 feet. On this again, and of about the same thickness, is a bed of stiff pure clay, supporting a layer of "humus" or soil proper, of from a few inches to a foot in thickness. These strata are generally quite horizontal, except in the upper Thoungyeen, where the sandstone has a dip of about 35° degrees."

great range of hills crossing the horizon to the S. E. of his position, coming from the N.W. and proceeding in about a S. E. direction towards the Cambodia river; from the higher altitude and greater uniformity of course, he felt convinced that it was the continuation of the Himalaya chain of mountains, which, after passing the head waters of the Menam and Cambodia rivers, terminates on the coast of Cochin China. That from which the observation was made, which for the sake of distinction, we may call the Peninsula range, did not appear to belong to the same system as the former, and, within the scope of vision, consisted of a congeries of small ranges throwing out spurs in all directions and coming more from the westward than the other.

As applying to a line of country hitherto so little known as that lying between our frontier and the border Chinese province of Yunam, such observations as the foregoing have a relative value, as they serve to correct data not clearly established, and afford a more perfect one for geographical description than has hitherto obtained. This subject merits particular attention, as, from the extensive ramifications attending all mountain systems, a correct knowledge of them cannot be attained unless by great application and intimate acquaintance with their localities.

Connected with the upraised geological features of this Province (Amherst) are the ranges of primary sandstone hills, varying in height from 100 to 1,500 feet, which extend from the mountain limestone in a series of isolated masses, approaching the Salwin at Maulmain, and thence proceeding in a S. E. direction for a distance of 50 miles:—this formation may be distinctly traced from the stunted appearance of the vegetation upon it, and when steep declivities occur shewing a bare mass of weather worn rock of a deep red color. An examination of several of the vallies forming the water courses in the above, shewed the formation to consist of a compact ferruginous sandstone highly indurated, with a quartzose fracture; no general line of stratification could be observed in the main body, but in one of the lateral fissures at a height of 200 feet it was plainly discernable, shewing a course agreeing with that of the range (S. E.) and with the dip nearly vertical. This however cannot be generally applicable as from the disturbances and irregularities at the surface, a very short distance would doubtless shew a varying direction and angle of dip. Distributed along the base of these sandstone hills lie huge fragments of the main formation, some of the larger masses having been precipitated from near the summit, in

which a varying structure is discernible; some of them shewing a distinctly granular one, such being generally in a state of decomposition passing into a clay in which the rounded pebbles of sandstone in the bed of the water courses become imbedded, forming a coarse conglomerate rock, indurated by oxide of iron. This apparent discrepancy in the structure of a rock, which must evidently have been homogeneous at the period of its deposition, is to be accounted for by the exposed surface having been nearest the plutonic action which created the range of hills, some portion of the main body shewing in fact a highly vitreous surface, the undoubted result of the cause assigned. The sandstone rests upon a micaceous schist formation, very fine grained, of irregular fracture, this being present with other "detritus" in the hollows of the vallies, accompanied also by water worn fragments of a blue clay slate similar to that of the primary order of argillaceous schists, of which the main range of hills is principally composed. No line of junction of the sandstone with the schists of the lower strata is visible, but it may be stated to occur at about the 15° of N. latitude, where this formation as a connected range ends, separated by a narrow valley from the clay slate of the principal or superior range of hills.

In the absence of personal observation, any remarks on the geological features and characteristics of the boundary range of hills, which extend in an unbroken line through the centre of the Peninsula, must necessarily be crude and imperfect; a proximate knowledge may however be derived from the fact that in the head waters of the streams throughout the coast, having their sources either in the main range or spurs therefrom, stream tin is found, and from several localities nearer the base of that range, gold also is found in the alluvium; from which we may infer that in its general characters it agrees with the stanniferous formations of the Straits, of which mountain system it forms a portion, produced by the same subterranean forces, and varied only by local causes, of which nothing less than personal investigation would warrant more than this passing notice.

Granite in fragmentary masses accompanied by greenstone, quartz rock, and greenstone schist is found, composing the principal rock of the reefs and jutting headlands which occur throughout the line of coast from Amherst point to the Tenasserim river. It is equally abundant on the main, forming low ranges of hills or isolated masses which abut upon or permeate the sandstone,—these hills are of inferior altitude,

rarely exceeding 250 feet, and are the nearest in position to the coast. A range of this formation passes through the Tavoy promontory in a due N. and S. course. The general character of this granite is that of a coarse grained rock with a predominance of felspar, which renders it more susceptible of the atmospheric influence than those of finer texture and less felspathic, hence the surface appears in all stages of decomposition, the more exposed parts having the appearance of a clay matrix containing coarse laminae of mica and large angular crystals of quartz. The soil formed by the wasting of this rock is highly fertile, owing doubtless to the potash of the felspar; it is generally applied to the cultivation of the upland rice, the crops of which it produces in the greatest luxuriance.

Granite and quartz veins permeate the whole system of the primary order of rocks on the coast, and appear to take the place of the order of trap rocks, beyond the greenstone type of which latter, a paucity exists. One form of these granite veins occurs near Mergui enclosed in a low sandstone hill; it is of a pure white color, in a high state of decomposition and forms the matrix of the peroxide of tin, which is found in aggregated crystals imbedded in the mass. Captain Tremenhare, in his report upon this locality, has pointed out the practicability of working this deposit advantageously, if the undertaking were conducted on the most approved method, with European skill to direct it; this subject however shall meet further notice when treating of the metalliferous deposits of these provinces.

From the prominent features of the geological conformation as described in the mountain limestone and old red sandstone, it is a matter of surprise that the carboniferous system enclosed by those formations in this locality, has hitherto proved so unproductive. Sections of the secondary strata, composing beds of a soft blue clay with ironstone nodules, and the shales of the coal basins accompanied by a coarse calcareous conglomerate, are visible in the banks of the river Attaran, which has its course in the valley formed by the sandstone and limestone hill ranges, but up to the present period no coal has been discovered in this vicinity. This may in some measure be owing to the horizontal position of the strata in question, which is unfavourable to the outcrop of the mineral at the surface; but, judging from local disturbances, this horizontalism cannot be preserved for any considerable distance, and a minute investigation would doubtless discover a more favorable angle of inclination of the strata, which,

followed up with care, would result in revealing deposits of coal hitherto unknown.

Approaching the head waters of the Attaran river when the strata are considerably elevated, with the dip at an angle of 38°, two separate lines of lignite occur in a coarse sandstone conglomerate with shale and a semi-indurated blue clay containing limestone pebbles. This lignite is highly pyritous, its decomposition affording a copious deposit of sulphate of iron which covers the exposed surface with a dirty-colored efflorescence. Some of the pieces taken from the deposit retain their original characteristics, do not fracture, and may be sawn through in sections across the grain, the same as wood imperfectly carbonized. Other deposits of wood less changed than the foregoing are found in the banks of the rivers Dayue and Gyne some 20 to 30 miles to the northeast of Maulmain, covered with the same blue clay as that already noticed, but none possess any useful quantity as a combustible material.

Further to the southward and cut through the centre by the course of the Tenasserim river, the carboniferous strata are more prominently developed, and upon its numerous tributaries, as also upon those of the little Tenasserim, out-crops of coal are found. This portion of the Provinces, commencing from the head waters of the Tenasserim river to the eastward of Tavoy, and extending to the boundary river Pak-chan comprising nearly 120 miles of latitude, may be said to form an entire carboniferous system, or succession of coal basins, enclosed on its east side by the boundary range of primitive mountains, and on the west to the latitude of Mergui by the ranges of secondary hills, which terminate at that point on the sea coast; throughout this space a regular alternation of limes, shales and sandstone occur; the latter in some instances having the impression of leaves, but no fossils either in the limestones or the accompanying deposited strata have as yet been discovered.

Specimens of the rocks from the banks of the small rivers which discharge themselves into the sea below Mergui, shew that the same system of coal measures exists uninterruptedly to the sea; and as the Islands of the Archipelago are separated from the main only by shallow mud channels, it may reasonably be expected that within the numerous groups, forming the Archipelago, several beds of coal lie exposed at the surface, which require but careful investigation to bring to useful application; but until the attention of Government be directed to the important subject, and this be done with a spirit of scientific research commensurate with its value, the

development of this source of wealth must for the present rest on the accidentally excited curiosity of the native trader, who in visiting the Islands may discover this deposit, or upon any other equally fortuitous circumstance of the kind.

The plains of the Tenasserim Provinces, consisting of those slopes near the base of the hills, and the lower alluvial lands employed in the cultivation of paddy, may be stated as comprising one half of the whole area of surface (about 32,000 square miles) of the former. By far the larger portion is covered with dense jungle and possesses generally a rich soil formed by the accumulated vegetable deposit of ages past, in combination with the components derived from the disintegration and decay of the adjacent hills. Those slopes however, which skirt the base of the sandstone hills are comparatively bare of forest vegetation and, from the very large proportion of silicious matter they contain, are not adapted to general purposes of cultivation. The oxide of iron is prevalent throughout, giving an almost uniformly red color to the soil of those plains* situated above the paddy lands.

It has been stated (Dr Helfer's report) that the alluvial plains of these Provinces, owe their origin to marine deposits at a period when the sea skirted the base of the mountain limestone ranges, and from the action of the waves, were produced the caverns peculiar to that formation,—the proof of this submergence however is wanting, for had this extensive tract been covered by the ocean, both in the cavernous limestone as well as in the argillaceous soils which form the present grain lands, fossils of animals and other marine exuviae would be present, as in all formations of undoubted marine agency as far remote as the "eocene" period of tertiary deposits, but with the exception of a deposit of shells of the genera "cytherea" and "venus" found near the sea coast at some distance south of the Tavoy river, which merits a further investigation†, neither in the limestone caves nor in the alluvium has any such "memento" of the past been found, to which may be added the fact, that analysis of the soil

* Analysis of this soil gives:—

Water of absorption.....	89	} In 400 parts.
Fine silicious Sand.....	190	
Silica.....	40	
Alumina.....	14	
Oxide of Iron.....	12	

* Since this was written I have ascertained from the Revd Mr Mason who formerly noticed this deposit of shell that on second examination of them he had good reason for stating that they were not fossils but a casual heap of shells, similar to others found in the vicinity of Burman villages, collected no doubt for the purpose of conversion into lime.

proves the absence of the muriates, which, as an oceanic deposition, would be present to its deterioration as a cultivable grain land.

Under these features of the case we may escape the imputation of presumption in assigning to a "fluvatile" action solely, the deposit of the lower alluvial plains of this coast, upon the established principle in the formation of deltas as stated by Lyell, that where the tides and freshes meet, with a preponderance of power rendering the tidal action subordinate, as on this coast during the S. W. monsoon, fine silt lands are formed in the estuaries and on the coast line, which from the want of tenacity are again subject to destruction by tides and currents when these latter are of predominant power,—were further proof wanting in support of this view of the subject it will be found in the ingredients of the soil itself, which contains silicious and micaceous particles in combination with the argillaceous matter; the undoubted products derived from the wasting and attrition of the primary order of rocks.

Another destructive feature in the formation of this alluvium is to be found in the banks of the river, where the deposited soil is seen in separate layers, varied in thickness, it may be presumed, by an excess of rain and consequent deposit of one series of seasons above those succeeding:—and in color and conformation, by the action of currents and freshes in the upper course of the streams in penetrating and causing the abrasion of formations previously protected by those which have been washed away.

To the corroding action of carbonic acid, may be attributed the cavernous stalactitic and stalagmitic character of the mountain limestone formation, rather than to the cause assigned in the action of the waves of the sea:—the following extract from "Lyell's Principles of Geology" will serve to elucidate this point more fully.

"The subtraction of many of the elements of rocks by the solvent power of carbonic acid, ascending both in a gaseous state and mixed with spring water in the crevices of rocks, must be one of the most powerful sources of those internal changes and rearrangements of particles so often observed in strata of every age.

It rarely happens except in limestone rocks, that the carbonic acid can dissolve all the constituent parts of the mass, and for this reason probably calcareous rocks are almost the only ones in which great caverns and long winding passages are found "

Wanting the evidence of raised beaches and marine deposits in the alluvium of the coast, as proof of a former higher position of the waters of the ocean than prevails at present,* we may thence infer that no organic remains of marine origin will be found in the limestone caves situated at a greater distance from the ocean, and should any animal remains be discovered in the stalagmitic deposits of these caverns, they will doubtless prove to belong to the bat tribe, which in myriads have for ages past, frequented them.

Situated as the coast is, in such close proximity to the volcanic zone as described by Van Buch and Lyell, and with the volcanic forces in active operation at no great distance in Barren Island, Narcomdam, the island of Cheduba, and lately on the coast of Arrakan near Kyouk Pyu, a frequent recurrence of volcanic influences might be expected; such however is not the case, and during the last twenty years, but one subterranean disturbance has occurred with a strength of movement sufficient to attract general notice. Neither on the islands or the main shore do any traces exist of past volcanic action, or indeed of any elevatory action having occurred,

* On the subject of raised beaches, the following note has been supplied by Capt A. P. Phayre, Principal Assistant to the Commissioner.

"About the centre of Beloo gyoon, a sand bank runs for several miles down the Island nearly N. & S. It is raised above the surrounding country and has the appearance of a raised sea beach or of a ridge thrown up by a prenter meeting of the currents. It is in general some 40 or 50 yards broad, and so well raised above the inundation that the neighbouring cultivators choose it for the site of their granaries. It is frequently seen commencing from the south side of rocky hillocks which rise abruptly from the plain, and are called by the Taliens "islands;" the tradition is, that the sand bank is the work of the sea.

The south end of Belu gyoon has within the last 8 or 9 years become subject to inundations of the sea, so that about 5000 acres of Paddy land have been destroyed.—I have no means of ascertaining whether this has resulted from a permanent lowering of the land, or, as the natives say, from sand banks formerly extending out south of Beloo gyoon having been washed away, and the high sea shore bank gradually undermined, so that the sea now comes right over the lands at high tides"—A. P. PHAYRE

On the Coast of Arracan and on the Islands skirting the Burmah Coast, indisputable evidence exists in the exposed marine deposits, of the whole line having been considerably elevated within no distant period; but this action does not appear to have been extended to the Eastward of the Irrawaddy river, at least no evidence of a similar nature has been met with throughout the Coast line of these Provinces. All changes under notice therefore of a purely alluvial character may with safety be attributed to the action of the tidal currents solely, and in the instance described by Capt Phayre we have an example of its creative and destructive powers, which are in constant operation in the formation of "deltas" throughout the world.

[These long sand banks, called permatangs by the Malays, are common on the alluvial plains of the Malay Peninsula. We have explained the mode of their formation, and the cause and measure of their height, in this Journal. Vol. II p. 133, 4.—ED.]

since the last great revolution of the globe, by which the mountain ranges were created, but that the land is not in a perfect state of quiescence, we have evidence in the thermal springs which are found rising through the secondary formations which skirt the boundary range of mountains, from the head waters of the Thoungyui river to the feeders of the little Tennasserim south of Mergui, and there can be little doubt but that they will be found to exist throughout the "terra incognita" lying between our border on the Pok-chun and the Malacca territory, where the known localities form a connected series of springs passing nearly N. and S. through the Peninsula.

I am not aware whether the properties of these thermal springs have ever been ascertained, or that any analysis of their waters has been made; it cannot be expected however, that the curious traveller will burden himself with fluid specimens requiring extra care for their preservation in a country accessible only by the rudest jungle paths, or that he will on discovery institute any further investigation of the properties of such springs beyond ascertaining the fact of their high temperature.

A spring of the ordinary temperature discovered by myself while passing through the jungles in this vicinity deserves notice. Amidst a mass of desrupted lateritic fragments, the water bubbles up, overflowing the surface, more copiously during the rains than at any other period, encrusting every substance in the vicinity with a coating of carbonate of lime, and forming within the cavity a series of miniature columns of calcareous tufa, which are extended annually from any of the jutting projections of the laterite, forming small caverns and giving the whole an appearance precisely similar to that of the cavernous limestone; at once both interesting and instructive in the examination. Seeds, twigs and leaves of the jungle plants so encrusted, preserve their original shape, the ligneous parts being in a state of partial decay as from moisture, the seeds however are completely altered, the whole substance being changed into a carbonate of lime, preserving its original vegetable appearance in the cross section. The water of this spring yields to tests both carbonate of magnesia and oxide of Iron, the latter in very small proportion;—these, combined with the carbonate of lime and carbonic acid gas appear to form its constituents, shewing its properties to be almost purely alkaline.

A gradual wasting of the alluvial lands exposed to the direct action of the sea, as on the Island of Beloo Gyoon and in the

same deposits forming the banks of the Maulmain river, has been in active operation for years past. Within the last ten years however, this destruction of highly fertile grain lands has been brought to prominent notice by the fact, that in the former locality, a tract of about 6000 acres has, during that period, been rendered useless for cultivation, by the influx of the sea water; and in the latter locality the same destruction of land has occurred; the same cause being assigned by the cultivators, the process in this case being the erosion of the rivers bank to a distance that has admitted the salt water into the plains which were previously protected by this belt of uncultivated jungle. At the present progressive rate of destruction of these lands it may be expected, that in the course of a few years more, the encroachment of the sea will have inflicted a most serious injury on the best interests of the native cultivators; and with the loss of the most fertile tracts of alluvium, a corresponding loss of revenue will accrue to government, such a consummation being inevitable in a country with a native population of the most apathetic character, unused to any extraordinary exertion of either body or mind; and who rather than oppose the most simple work of art to the ravages of any natural process of destruction as that described, would relinquish the hereditary allotment of their family without a single regret; this however has been provided for in the able and judicious measures of administration of the present Commissioner Mr Colvin, who in reducing very considerably the former pressing rates of land, and instituting terms of tenure of the most liberal character for unconverted paddy lands, viz: freedom from tax from three to six years, according to the jungle to be cleared, has thereby secured an uninterrupted and increasing return of revenue to Government, and conferred upon the native cultivators a boon which will manifest itself in the good result of its operation.

It is to be regretted that in the various missions undertaken by Government with the object of opening an intercourse with the interior, the subject of geology has not been considered more essentially important as an aid to more correct geographical description than appears to have obtained. It is not hereby implied that the traveller should burden himself with bulky specimens of rocks, in countries scarcely accessible by the commonest means of transport, with bridgeless streams and jungle paths; it would be sufficient for the purpose when observing the direction of hill ranges, to select small specimens from the most prominent ones, procured if possible from some mural section of the main formation, noting at

the same time its characteristic features, as also the angle of dip and course of stratification, and the general disposition and character of the overlying masses at the base, or above the level of the plains; such data would afford a standard for reference in noticing the various modifications occurring in the course of the journey; and as a basis for the construction of more elaborate descriptions than that supplied by common charts, would, in the absence of actual survey, be invaluable.

In conclusion, for the crude and general manner in which the subject has been treated in the foregoing remarks, it is only necessary to refer in excuse to the object in view as stated in the commencement, and to the absence for the most part of all sources of information, upon which to ground a more particular and scientific description:—that object will be gained, if what has been advanced should lead to a more able and demonstrative notice of any one point therein. By such means we may look forward with a hope, that, as our knowledge of the resources of the country, as pointed out in a future paper, becomes more matured, the application of British capital and enterprise will not be wanting to effect their full developement. To these resources, to the salubrity of the climate, so eminently adapted as a sanatorium to the continent of India, and to the character of the natives of the country, a race unprejudiced by casts, tolerant to an extreme in their religious tenets, of a cheerful disposition, and as little prone to iniquity as any class of natives in the east, despite the contamination of the dregs of society from all the surrounding nations,—to these desirable properties, in conjunction with its unlimited resources as a new colony, we may assign an operation equally favorable in its result; and we may trust that under a just and fostering government, these Provinces will, with the revival of a more healthful state of British commerce, become more extensively known and appreciated, so that at no distant period they will have attained a position in the scale of commercial importance and prosperity equal to their merits; and in the blessing conferred upon the inhabitants in having rescued them from a tyrannical and semibarbarous Court, will be reflected equal honor on the British rule.

FIVE DAYS IN NANING *

THIRD DAY.

*(Thursday, 11th February, 1847.)*EXCURSION FROM SABANG AYER PANAS TO MALACCA PINDA AND
BUKIT PANCHUR.

EARLY this morning I started for Bukit Panchur proceeding first along the road to Alor Gaja. As we passed the hot spring it was curious to see the vapour not only rising from the swamp but from the streamlet by which the water is carried off. A long line of vapour marked its course through the paddy fields. Where the road ascends Ganong hill, after crossing the spur over the Ayer Panas valley, a section a few feet in depth is exposed. In crossing the jungle of brushwood beyond Ganong village the notes of birds were heard all around. The most remarkable was that of the burong Takwasa which consists of four notes, each emitted with great slowness and followed by a pause. On arriving at the flat of Ganun Kichi, or Kachi as it is pronounced by the Naningites, we struck into the jungle on the left by a foot path. At the distance of about two hundred paces from the road I suddenly found myself on the right bank of the Malacca river, although by the map which I carried (the same which is given in Moor's Notices) the river was a mile and a half from the road. The stream was about 20 feet broad and 3 feet deep, and flowed in a bed worn to a depth of nine feet below the level of the land on each side. In rainy seasons it fills this bed to the brim, and occasionally overflows. We crossed it by an angular bridge formed of a few slender sticks rising from each bank, with a great acclivity, to the top of a long post driven into the centre of the bed. We next passed some cleared ground covered with cocoanuts, a paddy flat and some jungle, when we found ourselves in an open space at the foot of a steep hill covered with forest. On the one side the Malacca river swept up at a curve so acute that it almost returned upon itself. On the other side, from a large empty shed a path ascended through a cleared strip to the brow of the hill, where one of the most famous kramats in this part of the Peninsula, that of Datu Dalong, is situated. Some pious Chinese has placed the remains of an iron furnace, to serve as a shrine, near a few trees that have been left standing, but the makam or grave of the Datu is not here

* Continued from page 287.

but somewhere in the vicinity. It has sometimes been seen by favoured votaries to whom the Datu chose to reveal it, but none of them have ever been able to discover it again when they have gone on purpose to do so. The Datu is very powerful and pilgrimages are made to his shrine from all parts of the country. When the rice harvest is over the Malays come and sacrifice buffaloes, goats and fowls. Sick persons resort to it. But the most profuse votaries are some of the wealthy Chinese merchants of Singapore who visit the shrine in order that good fortune may attend them in their speculations. I was surprised to learn that one of the most respectable and wealthy of their number had long made it an invariable practice to sacrifice a buffalo once a year to the Datu. The Chinese from Malacca generally come with their families in boats and pass some days on the spot. The roar of a tiger from the woods of Datu Dalong was heard all over Naning on the eve of the war. It is not more than 15 years since the war, and yet this story is repeated and believed, and every one either persuades himself that he heard it, or believing that it was heard, concludes that he necessarily heard it also, and, without the slightest intention to deceive, assures the enquirer that he did. In some cases however a Malay tells one of his wonderful stories with a somewhat dubious air, as though he felt bound to believe it, while it went against the grain of his common sense to do so.

A rude path now led us along the steep side of the hill and above the river which was seen through the branches glittering below. We soon entered on a good path 4 to 5 feet broad which lay for some time through the forest of Datu Dalong in an E. by S. direction. The burong Takwasa and other birds enlivened the shady scene, and from its depths frequently rose the loud lamenting cries of the unka, in which all the wildness and romance of these primeval forests find a voice. A block of granite protruding from the road indicated the composition of the tract. The poku minia' abounded.

About $\frac{1}{2}$ past 7 o'clock we reached Malacca Pinda. It resembles the other villages of Naning, but has some marked features of its own and a greater air of neatness and cultivation. The trees are old and large, and a circumstance which had struck me in some other places was here very obvious viz: the great height and slenderness of the coconuts. But this peculiarity was not confined to them, for the durians, which were numerous, partook of it so much that their whole character was changed. Gomuti trees abounded. A fine

sward covered the ground between the trees and the large open tract above the Kampong. On the left lay the paddy plain, and over it rose the steep and high face of Bukit Panchur covered with great forest trees. The women as usual were busy gathering the rice. Here, as well as at all other places which I visited in Nanning, the tui alone was used. It would appear that the sabet has not yet reached so far into the interior.* We waited the arrival of the matamata at his house for a few minutes which I employed in examining the horns and jaw bones of deer and feet of wild fowl displayed on the side of the verandah. The rock is here lateritic, but in the middle of the rice flat there are some broad granitic blocks. The matamata soon joined us and at once consented to accompany us to Bukit Panchur. His manner was a contrast to that of Abdulrahman,—grave, saturnine and apparently inconvertible, but withal willing to oblige and give information. At Malacca Pinda, according to him, there are seventy houses, each with two to six occupants.

Under the matamata's guidance we crossed the rice valley and ascended the elevated ground on the opposite side. As we proceeded, the country, open at first, gradually shewed less signs of cultivation, brushwood more and more abounded, till at last all trace of cultivation ceased and the path was nearly choked. We continued to press along it, and after walking some distance the brushwood began to be intermixed with plantains in a half wild state; pineapples were soon added, but the thicket made by these with the plantains and strong lalang, was more dense than that of the brushwood. Extricating ourselves at length from this deserted garden, we stood on the margin of a recently felled forest and at the foot of the steep face of Panchur. The trees and branches lay all around so as to render our further progress very difficult. Plantains, kledé and a few pāpayas were planted in the open spots amongst them. As we approached this place, our ears had been saluted by the most varied and melodious tones proceeding from some bulu pēindus invisible to us, but apparently attached to one of the trees high up the face of the hill above us, and exposed to the wind blowing freshly there though unfelt by us. I strained my eyes to catch a first glimpse of the houses of the wild denizens of the mountains, of whom I had heard and read so often, but with such imperfect results that the interest naturally excited by a race so singular in their habits and so mysterious in their origin,

† The sabet is a sickle, the tui a small instrument which aids the hand in cropping the heads only of the paddy.

had been increased instead of satisfied. We crossed a considerable portion of this newly cleared tract without seeing any trace of a habitation, but when we had descended to a lower and larger cultivated tract, the barking of dogs indicated that we were close to the huts. A few paces more brought the first into view. It was a rude shed raised on posts about five feet from the ground, open all round and thatched with paddy straw. In front a quantity of paddy was stored, and a little nook behind formed the sleeping place of the occupant, who was absent. A little further on we saw a larger hut closed in like a common Malay hut, but not so neatly constructed. In the verandah above several Bésisi were sitting and two stood outside leaning against the posts. As we approached, my conductor, who had previously announced himself by calling out as soon as we entered the kampong, saluted them, but they made no salutation or other sign of welcome in return. I addressed them, but with no better results. They wore the ordinary Malayan baju and sluar but their dress hung loosely and clumsily upon them, as if they were not yet habituated to its use, as was indeed the case. They were clownish and awkward and entirely devoid of the peculiar and strongly marked manner of the Malay. The expression of their faces was open and simple. In this respect, however, the difference was not greater than that between an uneducated rustic, who has always lived in a part of the country remote from towns or villages and their influence, and the denizen of a town. The influences of Hinduism and Mahāmedanism, the subordination of rank, living in society, and mixing with foreigners, have impressed on the Malay his characteristic manner. In Europe every village, town and city stamps a characteristic manner, more or less palpable, on those whose lives are passed entirely in it; and this manner, resulting from the influence of the dense society in which the individual is constantly enveloped, must always depart to a certain extent from that candour and simplicity of manner which are proper to nature, and which may even be found in some societies of the eastern islands where mutual good will and confidence remove all restraints. It is not till the social fogs bred of avarice, ambition and jealousy, which obscure early stages of civilization, are dissipated by true religion, that it becomes possible for communities to be pervaded by the highest art and yet remain close to nature. The matamata enquired for some of their neighbours and they offered to go to their house with us. This house was a very small hut on the ground, in which a woman was busy

roasting a whole wild hog I sat down on the trunk of a fallen tree in front, beneath a scanty kajang, presented the men who had followed us and others who soon joined them with some tobacco which I had brought for the purpose and tried to engage them in conversation. The Běsisi seated themselves on the grass opposite us, and conversed freely with the matamata, with whom they seemed to be on good terms. He spoke to them in a half kindly, half authoritative tone, and they answered in a simple, good humoured manner. Their conversation flowed less readily than that of a Malay, partly no doubt from being habitually less talkative, but evidently in a considerable degree from their being at a loss with what topics to entertain their visitors. Towards myself they were for a time reserved and constrained, but this wore off and they answered my questions readily and with good will, and seemed pleased with the interest I took in them. They presently produced a sumpitan and arrows with a joint of bambu filled with the poisonous juice prepared for the latter, but they could not be prevailed on to part with a sumpitan, alleging that they had only one and could not procure food without it. Notwithstanding the great contrast in manners and expression, the physical appearance of the Běsisi was so similar to that of the Malays, that it was evident, at the first glance, that they were physically one and the same race. Half an hour's conversation proved that in other respects also we still find in them the real basis of the Malay. The tones of the voice, some peculiar modes of intonation of words and simple sounds, even some traits of manners were, if not purely Malay, at least so like Malay, and so unlike any other continental race, that it was impossible to resist the conviction that in the Běsisi we see the Malay of the pre-Indian ages of the Archipelago. A disagreeable fetid odour surrounded the house, and my Mahāmedan companions did not seem quite at ease in such immediate proximity to the pig, so that I was obliged to leave sooner than I wished. I had some difficulty in prevailing on the Běsisi to visit me at Ganong Ayer Panas, but succeeded. They drew back however on finding that the matamata was not to go with us. The temptation of getting some handkerchiefs, cloth and tobacco at last overcame their reluctance, and it was arranged that some of them should escort me and two of my Malays over Bukit Panchur, while several of the others, with one or two of their women, should accompany the other Malays to Ayer Panas by the nearest road. They also promised to give me one of their bulu pěrindu. When breakfasting near a stream

which ran down a rocky hollow on the face of Panchur, I happened to place my compass open on the rock on which I sat, and it immediately attracted the wondering regards of the Bësi. After looking on it for some time in silent amazement till the vibrations of the card had nearly ceased, the question at last broke from one of them,—“*Apa benatang ini, tuan?*” what animal is this sir? I shewed them my watch, and nothing could exceed the wonder and delight with which they examined it. They asked where *its* benatang was, and I pointed out the box containing the mainspring as the place where the power was confined which kept the whole machine in motion, but they remained persuaded that some little animal was imprisoned within and compelled to tick and toil incessantly.

The ascent of Panchur on the south side proved excessively toilsome from its great steepness, and the want of any shelter from the sun the trees having all been felled and the bare soil and numerous large granite blocks reflecting the heat. The Bësi had planted some vegetables, and even the occasional slight and inconstant shade of a plantain leaf was grateful. One of the Bësi preceded me with little apparent effort, and with the aid of a stick and the use of my hands I managed to keep up with him till I was thoroughly exhausted and my head throbbed so violently that I felt as if it would split. The line of jungle seemed at no great distance above us, and the heat had become so intolerable that I strained every nerve to reach it; but the acclivity was a bar to increased rapidity of ascent, and the jungle seemed to retain the same distance. At last we reached a little watch-shed covered with leaves, when I threw myself down and felt the full blessing of shade. Half an hour elapsed before my Malay comrades made their appearance. They lay down panting and speechless, and one of them presently fell asleep. The other, when he found the use of his tongue, declared that he had never climbed a mountain before, and would never do so again.

When I could look around I found that we had reached an elevation which overlooked all Malacca, and which, at one glance, gave a truer impression of the character of the country as a whole, due allowance being made for perspective errors, than months of wandering through its vallies and over its hills could have done. I was first struck with the vast expanse of forest which enveloped almost the whole region, and in which the largest cultivated plains and vallies dwindled into mere patches. The most marked features, after this, were the sharp and irregular undulations or waves in which the

face of the country rose. It was every where hill after hill, either united into ranges or separated by narrow flats. To the E. and S. E. nothing was to be seen but hills and jungle, many of the hills towards the east rising more boldly than those within the Malacca territory. In front some narrow cultivated flats between hill ranges united into an irregular plain, through which the Malacca river winded. Jungle again concealed the zone of cultivation till the eye reached the rice plain, appearing like a narrow strip, extending from Ching to Bruang, which bounded the cultivated section of the circle. Due south, at a distance of about thirteen miles and near the margin of the land, Bukit China with its tall trees is distinguished over the town of Malacca, and on the right the plain of Klebang. On the west a partially cultivated district is seen in the vicinity of the mountain, but beyond this, and as far as the eye can reach, nothing appears but hills covered with forest on their summits, and low jungle on their sides. A belt of sea serves as an outer rim to the whole. It must be borne in mind that although the jungle does in reality greatly predominate over the cultivated portions, the proximity of the hills to each other tends to hide the flats between them in proportion to their distance from the eye of the spectator. The range of the axis of the hill or of the eminence on which I stood was E. by S.

The Malays seemed very much inclined to sleep out the day where they were, but, shaking off their languor when they saw I was about to proceed, they cheerfully arose and followed us. We soon entered the forest and reached the summit of the mountain on which there are some large granite blocks. The jungle was often tangled or choked with thorny plants which made it difficult to proceed, particularly as some places were exceedingly steep. My Bésisi guides however were perfectly at home, selecting with instant discrimination the best outlets, warning me against thorny or inflammatory plants, and lopping off branches. Their perfect familiarity with every object around them was remarkable, even compared with that of the Malays, for the latter did not distinguish plants with the same rapidity, and indeed did not seem to be acquainted with the characteristics of many. I wished to note the names of such trees as had them, but I soon found that there was hardly a nameless tree or shrub amongst the multitude of new forms around me, and that such a labour would detain me all the day in the jungle. The Malay botanical vocabulary, ample as it is, was soon exhausted, and for many plants which the Bésisi named at once

they had no word I was surprised to find that a considerable proportion of the trees and plants yielded fruits or roots which were familiar to the Besis, and in many cases to the Malays also, as articles of food ; and the jungles assumed a new character when, every few steps, I was told, this is the *kirkulang* with the three stripes in its leaves, its fruit is eaten ; this large tree is the *kayu kalidang*, the large round fruit of which is eaten ; this hanging plant is the *akar sigrang* and its fruit (about the size of an orange) is good ; this is the *pwa kapus*, the root of which we eat ; this is the *jolojolo* which gives us a serviceable gitta &c. Instead of a wilderness unfriendly to human beings and intended by nature as the exclusive domicile of wild animals, their hospitable shades had room for man too, and offered him not only shelter but abundance of food. Nay when I looked on my guide, so healthy, cheerful and innocent of all guile, not shrinking from contact with nature and warding her off or training her to his will, and not viewing her merely as an object of contemplation, but taking her as she is in all her wildness, living familiarly with her, with body and mind attuned to all her influences and vicissitudes, and having no wants beyond her spontaneous gifts,—my first thought was a doubt whether we did well to estrange ourselves from this primeval wildness of nature and destroy it out of our way that we may live in comfort, and a conviction that the eye of heaven must look more pleased upon these guileless and robust men than upon many civilized communities. My second and more sober reflection was that as to each stage of human life, from infancy to age, has been given its peculiar advantages and compensations, so Providence accompanies each social or ethnic stage with conditions adapted to it. Man, a reflex of the infinite, indued at once with a boundless energy of mobility and a strong capacity of persistence, has been fitted to pass through an infinity of stages of existence, and yet in each to be so fitted at all points to it, that he may tarry in it for ever, unconscious that his nature admits of any other. The Esquimaux would hear of the Malay, and the Malay of the Esquimaux, with incredulity or with commiseration. The polished man of the European city pities the savage of the eastern jungle, and the latter, could he comprehend the existence of the former, would pity him. Each is at home in his own sphere, and so well adapted to it, and content with it, that he would refuse or repent to exchange it for any other. Whether man finds it enough for him to be familiar with nature as she spontaneously presents

herself to his senses and, that attained, to live on unthinking and content, or seeks incessantly a deeper intimacy that he may lead an ever wiser life, she still cherishes him as a mother, and surrounds him with a home.

We descended the north side of Bukit Panchur, and, emerging from the jungle, looked down on a slope covered with a strong crop of hill rice which the Bësisi had planted for the matamata. This helped to explain the sort of fatherly regard he seemed to entertain for them. A deep hollow clave the face of the hill, and its steep sides were loaded with rocks, so that it resembled the easterly face of Bukit Birtam in Pinang. Half way down we rested in a hut raised on high posts, from which the crop is watched. This spot overlooked Malacca Pinda, which is seen as a narrow line of coconut tops in the expanse of jungle. In front nothing is seen but densely wooded hills, a considerable proportion of the jungle being blukar, over which Gunong Tampin rises superbly.* Beyond and to the left of it Gunong Rămbău comes into view. Many hill ranges of considerable height are seen; one of these on the left is called Bukit Mugi. The Sunġei Ujong hill ranges on this side appear to be a continuation of the Rămbău range. The whole landscape was swathed in jungle, with the exception of a very few strips and patches of open plain or coconuts in front and on the right. On the N. E. by N., and at a greater distance than the Rămbău mountains, a range is seen, which, from its colour, must be of considerable height. At the foot of the hill we crossed a very narrow flat which received the stream from the deep hollow on the face of the hill, and had probably been gradually excavated by it.

We now turned our steps towards Ayer Panas but by a different road from that of the morning. A walk of some hours along the margins of rice plains, through kampongs, and over some broad tracts of jungle, brought us to the village of Padang Sabang near Ayer Panas. Here there are several Chinese shops, which supplied an ample stock of fish, samsu &c to entertain my guests.

On arriving at Ayer Panas I found that the other Bësisi had been true to their promise, so that they now mustered nine men and two women. The greater part of the time they remained was occupied in writing down words, as their language is of great importance as an element in the

* Why the abruptness of the change from low hills to mountains? Why isolated mountains instead of a broad upheaved continental mass? The solution of this question would reveal much.

elucidation of the history of the Archipelago, and not more than 300 words of it were known. I experienced great difficulty in keeping up their attention, and although I took several in succession and endeavored, with the aid of the Malays, to amuse and interest them, they speedily felt exhausted by their unusual mental efforts, and became listless and dull. After dining and drinking a few bottles of samsu, they became more lively and I made better progress.

It required much persuasion to induce any of them to sing, each insisting that his neighbour sung better than himself. At last one of them overcame his modesty and sung several songs to different airs. The manner of singing was so new and striking as to be one of their most strongly marked peculiarities. The singer burst at once into the highest pitch of his voice, prolonged the first syllable, passed rapidly over those in the middle of the line, and hung on the last till his strength failed him, and all this without once drawing breath. It might be thought that this would produce but a savage and droning kind of music. On the contrary, from the power and melody of the tone, and the tender feeling which it expressed, it was as pleasing as it was extraordinary. The tones and air varied as he continued, and one song was given in a rude abrupt manner, but the general character was tenderness or plaintiveness. The style of chanting was wholly different from that of the Malay or any other which I ever heard.

After singing for some time they one after another dropped asleep, with the exception of one of the most intelligent and travelled called Nodo, who sat conversing with me till a late hour. He said they had remained in Rāmbāu as long as they could, but the exactions of the Malays became so oppressive that there was hardly a Bēsisi left in the latter country now. He and his comrades had come into the British territory to see whether they could live there unmolested. The mata-puta of Malacca Pinda had been kind to them and allowed them to live on Bukit Panchur, and they were very glad to clear jungle and plant rice for him, but the Panghulu had once visited them and asked them to pay rent. "Why should we do so for leave to live in the jungle?" asked Nodo, and I could find no answer to such a question from a Bēsisi. He said that no Bēsisi had ever paid rent, and they were resolved rather to return to Rāmbāu than do so! He became so gratified with the interest I expressed in his race, and with the enquiries I made, that he offered to sit up all night answering questions. I asked him where the Bēsisi

had come from, and he replied "Malacca and all the Great Island belongs to us." I asked what island? "This land you know is an island, when you go to the top of the high mountains you see the sea all round. It is Pulo Besar (the great island). It belong to us; the Malays have come into our country, but Malacca and all the land is ours and not theirs".

(To be continued)

SULU.*

Mr Itier, attaché to the French mission in China, has recently visited a cluster of islands lying to the northeast of Borneo, between that island and Mindano. His researches on the natural history and geology of these islands, are of much interest. The soil is exceedingly fertile, and the climate more healthy than is usual in intertropical climates. The sugar cane, cocoa, rice, cotton, the bread fruit, indigo, and spices of all kinds, are among their products. Fruits and vegetables are of a great variety, abundant, and of a superior quality. Nine-tenths of the soil is still covered with the primitive forest, of which teak-wood, so valuable in ship-building, forms a part. A considerable commerce with China and Manila is carried on, and from ten to twelve thousand Chinese annually visit the island of Basilan, the most northerly of the group, to cultivate its soil, and take away its products. The peculiar situation of these islands, and their contiguity to the Philippines, to Celebes, Borneo, Manila, China, and Singapore, make them well adapted for a European colony. In fact, there do not appear to be any islands of the East Indies of equal importance, and there can be no doubt that, with the present desire manifested by European nations for colonizing, this desirable spot will ere long be secured by one of them. The Sulu group embraces sixty inhabited islands, governed by a Sultan, residing at Soug. One of these would be an advantageous point for an American colony or station.

* From a paper by Mr Bartlett—Cor. Secretary of the American Ethnological Society, in the Transactions of the Society.

AN ESSAY ON CORAL REEFS AS THE CAUSE OF BLAKAN
MATI FEVER AND OF THE FEVERS IN VARIOUS
PARTS OF THE EAST.

By ROBERT LITTLE, Esq. Surgeon,

Late Demonstrator of Anatomy at the Argyle Square School of
Medicine, Edinburgh, &c.

PART. III.

*On the Fevers &c. of Pulo Tinggi, P. Aor, P. Laut,
Natunas, Banka, Batavia and its harbour.*

As the following observations have not been made by me in person, but have been furnished me by friends who have taken an interest in this subject, and who personally have made them, or are extracted from books where incidental remarks have been made on the localities alluded to, I will be careful in both cases to give my authorities, premising, that in a new field of inquiry like this there is much to be discovered, and much to be corrected in that which is already known.

My first deduction contained in part II, was, that wherever coral reefs are exposed at low water, animal decomposition will go on to an extent proportioned to the size of the reefs cæteris paribus, and that malaria, the result of that decomposition, is one of the principal causes of the fevers endemic in such localities. If it is allowed that this has been proved, and that the cause of the fever at Blakan Mati, an island adjacent to Singapore, depends on the coral reefs which fringe its shores, it follows that where other localities are similarly circumstanced the same cause will give rise to the same effect.

The above deduction from facts collected in the neighbourhood of Singapore will be equally applicable to localities at some distance.

Pulo Tinggi.

In coasting, for instance, the Malay Peninsula to the eastward, we come to a high and prominent island called Pulo Tinggi nearly opposite to Pahang, within a few miles of the coast. This island is covered with primitive forest while

its beach is girt with the graceful *causarina* tree. On it are no marshes, as far as I could observe from a short sojourn I made there a few years ago, which Mr J. R. Logan, who visited the island lately, corroborates.

The island is girt with coral, but that is covered or only slightly exposed except at one point facing the south, where there is a village containing about 30 houses, opposite to which is a low shelving reef exposed at low water. The inhabitants of this village are afflicted with fever and ague (*Dimām Kora*) which however they attribute to spirits, not unlikely from seeing no visible cause on land and knowing not the evil influence of exposed coral reefs. They are very migratory in their habits, their occupation leading them to frequent the neighbouring islands in search of shells, *beche de mère* &c. which gives them much local experience. On Mr Logan inquiring whether any of the neighbouring islands were afflicted with fever—they informed him that Pulo Aor was so, and that their crews very often get sick with *Dimām Kora* when visiting and lying off that island.

Pulo Aor.

This Pulo Aor, an island in the middle of the China Sea, surrounded by a vast expanse of water, is described by the Orang Kaya or head man of the Natunas under whose jurisdiction it is, as a high land with no marshes on it, but having an extensive coral reef on its southern aspect. This description of the island is confirmed by Nakoda Barrang a resident there who states that it is surrounded by coral, especially on its southern aspect; that it has no marshes but is covered by a low brush and jungle. The inhabitants of this island who live close to the beach are afflicted with both *Dimām Kora* and *Dimām Kapielu* (intermittent and remittent fevers)—which attack them generally in the change of the monsoons, and when the S. W. monsoon blows over the reef.

Let the reader consider well the situation of this island, a high land, surrounded with a vast expanse of ocean, covered with low brush and jungle, having no marshes—whose inhabitants are afflicted with fever, especially those who live on the beach, and during that monsoon when the wind blows from the sea over an exposed coral reef,—are we not justified in supposing that from that reef—something pernicious does emanate? This single illustration of my theory would be sufficient to arrest the attention of any ordinary observer.

Natunas.

The Orang Kaya of the Natunas, in the course of conversation, mentioned that Pulo Aor was surpassed in unhealthiness by another island called Pulo Laut, one of the north Natunas. Round the land extensive fringing reefs are seen exposed at low water. Haji Ibrahim, Orang Kaya Muda of Rhio, states that here the rise and fall of tide is very great, the tide making and receding like a river. Both of these natives particularly instanced this island as much afflicted with remittent and intermittent fevers.

Amongst the south Natunas coral reefs abound, and intermittent fever is the prevailing disease. Captain Congalton of the H. E. I. C. Steamer *Hooghly* mentioned to me that his crew when in the Straits were healthy and free from fever, yet on a late occasion, on the loss of the ship *General Wood*, they were, while amongst the Natunas and shortly after leaving them, nearly all attacked with fever and ague.

Banka

The island of Banka supplies the next subject for illustration, and the point of observation is the S. W. point opposite to Palembang in Sumatra. This part of the island was taken possession of by the British in 1812, and was retained by them until they ceded the island to the Dutch. While there they occupied Fort Nugent, situated a short distance from the commercial town of Minto. The situation of the Fort is thus described by Dr Horsfield "The situation of Fort Nugent, although selected with every prospect of healthfulness, was, on experience, proved to be the very reverse. *It was dry and elevated, and to appearance beyond the reach of marshy exhalations*, but the nakedness and exposure of its site afforded no shelter from the violent gusts of wind, which were impregnated with the effluviae of distant marshes. The military removed here (on the formal cession of Banka to the British Government) had no other accommodation, in the commencement, than their tents, and soon became sickly—a more salubrious and sheltered situation was selected with the advice of the best informed natives, a few miles to the east of Minto, the commercial capital of Banka. Here, at a small village called Rangan, a temporary Hospital was established which appeared to answer every expectation, and the invalids speedily recovered." At the time Dr Horsfield wrote, and

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W. O. Linder Smith

even to this day, if fever attacks the inhabitant of a locality, marshes are immediately sought after and the fever attributed to the effluviae or miasm from them; and when they are not yet fever is, Sir James Murray considers, an argument in favour of his idea of fever being produced by an electric change of the body. The poor Malay, on the other hand, seeing no visible cause, attributes all to spirits. That marshy effluviae will generate fever, I have proved in a preceding article, but if one locality is dry, elevated, in appearance healthy, is distant from any marsh, yet subject to fever, and another locality, to appearance not so healthy, contiguous to marshes, is yet free from fevers, I cannot by any power of reasoning suppose that the first can owe its cause to marshy effluviae, unless the rule was, the greater the distance from a cause, the greater the effect produced, which is absurd. Fort Nugent situated amongst diminutive hills, where the "soil is composed of poudingues, sandstone, red iron stone and clay in compact strata" is close to the sea beach, and therefore subject to what influences may be generated there. I do not know the extent of the coral formation, but that there is coral there we know from some rocks close to the shore being called Karang Haji, from furnishing coral for beads used by the hajis or pilgrims to Mecca, and to that coral I would attribute the unhealthiness of Fort Nugent.

Batavia Roads.

Batavia, a name so well known to all medical men as with it to associate the very name of fever, has been the seat of endemic fever from the time that man built and dwelt there, while periodically it is swept by an epidemic of the same nature but of greater virulence in its symptoms and fatality in its results, that it had been well for the Dutch nation if they had never known this, their *mistress of the east*.

It would be impossible in a paper which requires such condensation as this does—to describe the many epidemics that have prevailed in Batavia, but as a type I will partially transcribe one graphically narrated by Mr. Wadshields surgeon R. N. in Dr James Johnston's Work on the influence of Tropical climate. This chapter will be more readily comprehended, if the reader consults the annexed chart of Batavia roads.

"On the 23rd August 1800 His Majesty's ships Centurion, Dædalus, La Sybille and Bravre anchored in Batavia roads. The Centurion and Dædalus were placed about 4

miles from the garrison, to blockade the port, the Sybille kept constantly shifting about to interrupt the approach of small vessels to the city and the Bravre lay at anchor under the small island of Onrust about 3 miles from the mainland of Java. For the first few weeks the squadron continued tolerably healthy, the minds and bodies of the men being constantly excited with chasing the enemies' vessels, rowing guard, and loading and unloading prizes. The weather was temperate, the Thermometer 82° to 87°, with regular land and sea breezes. The land breeze is represented to have brought with it a thick mist accompanied by a very fetid smell during the prevalence of which many people would complain of indisposition in the stomach and head.

But about this time, the Bravre disembarked an officer and some men of the 12th Regiment on duty on the island of Onrust where a temporary hospital was established and here the first appearance of endemic fever was observed." "This fever attacked principally the intemperate, and a few of the 12th regiment fell victims to fever." "In consequence of which an idea was very generally propagated that the island was peculiarly unhealthy." On the 14th of September, the Centurion relieved the Bravre and took charge of the Hospital when 12 cases were left behind, most of them very ill, and some of whom died. Prepossessed against the island, the surgeon of the Centurion declined landing any of his sick there at first, till finding that some of the Bravre's who were exceedingly ill recovered, and that none of the nurses were attacked in the Hospital, he ventured to land 6 of his worst patients who all did well. He therefore became convinced that the reported insalubrity of the island was unfounded in a great measure at least." This last qualification was necessary and only amounts to this—that instead of all those attacked dying some did actually recover even on the spot where they had been primarily attacked.

The commanding officer of the expedition conceiving that the vicinity of the island to the mainland was the cause of sickness, ordered the sick to be removed on the 28th Sept. to the small island of Edam situated 9 miles out to the sea; a circumstance that he thought must insure its salubrity. Here the tragic part of the tale commences. Of 60 soldiers, 12th regt. landed at different times *in health* to do duty at Edam Hospital and other buildings on the island, between the 1st of October and 12th of November, 31 died (besides 5 or 6

at Onrust previously). Of the remaining 29 embarked on breaking up the blockade, 22 died at sea, the other 7 were sent to Malacca Hospital where all or nearly all of them shared the same fate!! All the soldiers getting ill on Edam, 16 marines were landed from the Centurion to do night duty as they expected an attack from the Dutch gun-boats; the whole of these were seized with fever and thirteen died!!! Almost the whole of the sick (23 in no.) who were removed from Onrust to Edam *died*, and as 9 officers, including the surgeon Mr Cornish, who were doing duty at this dreadful island perished, we may form some idea of the general mortality." Such is the dark picture of the fever in 1800, and during the last 50 years frequently has the shade been equally dark, for there has been an epidemic of equal virulence occurring at uncertain intervals and sweeping its thousands before it, and at all times we have an endemic of less virulence, but still presenting symptoms of a very deadly character, and insuring mortality amongst those attacked of more than 30 per cent. During the 9 years that I have been a resident in Singapore, I have annually attended many vessels having some of their crew labouring under this fever caught in Batavia roads, and frequently has it been remarked to me that when a vessel requires to be repaired at Onrust, the sojourn there most surely involves a certain proportion of the crew being attacked with fever.

Captain Brodie, whose experience, extending over a period of 30 years, carries with it some weight, considers Onrust at present almost as unhealthy as Edam, and has known picnic parties attacked with fever after visiting for a few hours the other islands of Amsterdam and Enkhuysen, and I cannot present the reader with a more striking illustration of the still unhealthy state of the harbour of Batavia and the island of Edam 10 years ago, than by transcribing a letter from Captain Leisk, Marine Surveyor, Singapore.

Singapore, 2nd October, 1848.

To Dr. LITTLE,

Dear Sir,

I will with pleasure give you all the information I can regarding Edam island. Edam island lies about equal distance between Cranang point and Ontong Java, being about 10 miles from either point, and about the same distance from Batavia Pier. It is a low coral island surrounded by a coral reef with a detached coral patch to the northward (I am not certain whether this patch is ever dry). The island

is about a quarter of a mile in diameter and covered with trees and bushes, but *I never saw a swamp on it*, it appearing to me to be dry. The soil is nothing but a mixture of coral, stones and coral sand. I have been on it twice but never found any disagreeable smell on the island more than on any other coral island, but I have known boats crews often taken sick after returning to the ship. Some of the Javanese sailors have a superstition that there is a tree on the island that occasions the sickness. I will tell you of a most singular occurrence which happened to a native vessel in the year 1838-39. The vessel's name was the "Atiet Rachman." I was living at Pamanukan at the time. After leaving Batavia roads the vessel ran down to Edam to take in ballast, arrived at the island in the morning and left with the land wind the same night. The next day several of the crew that were in the boat taking off the coral ballast were attacked with fever. The vessel was about 6 days on her passage to Pamanukan, and as soon as she arrived the captain came on shore delivered his orders and informed me that he required 10 coolies as his crew were very sick with fever—next day I boarded the vessel, and found all the crews laid up with fever except the tindal and topaz. After discharging the boats of sugar and looking after the necessary work, I went on shore and prepared medicine for the sick. Next morning I went on board and found two of the crew dead. I called my coolies to help me to get them on deck but they would not, being afraid of fever, so I had to drag them to the hatchway, put a rope round them, haul them up on deck myself, and take them on shore to bury them. I gave each of the survivors a dose of medicine, and told the cassab to boil plenty of rice and give them as much of the water as they thought proper to drink. Next morning I found three more dead, and several in the last stage of life, while the Captain was on shore very ill. The vessel was soon loaded with a valuable cargo, and there being no other alternative I arranged to take the ship back to Batavia, with the assistance of coolies and my boy. When I arrived on board next morning to get under weigh, I found four more men dead, and three gasping their last. Having got underweigh as well as we could, I sewed the dead up in canvas with shot to their feet, and committed them to the deep. I was two days in my passage to Batavia, my boy and I steering by turns. When off Edam island we touched during a calm, and the current kept us on until high water; while on the reef one of the sick men in a delirious fit ran up the rigging, shook his fist at the island, and threatened to throw himself overboard, but

came down when I told him; he died two hours after. In fact out of all the crew, captain, officers and men, only 2 lived to return to Batavia and those were affected with fever, but neither I nor my coolies were affected in the slightest degree.

W. C. LEISK.

Notz.—The men in the boats were first attacked, and there was no fever at that time amongst the shipping.

W. C. L.

This communication clearly shows that the virulence of the endemic has not of late years diminished, Edam being still as unhealthy as it was in 1800. But all must not be attributed to the miasm from the island, as the labour of loading the boats had predisposed the men who were in them to receive the impressions of the malaria, and had curtailed the latent stage, and perhaps the nature of the ballast being coral might, if all decomposition had not ceased, have kept up the malarious influence. Notwithstanding all this I would not insist that all the malaria was derived from Edam, for altho' there was at that time no disease of a febrile nature amongst the shipping in Batavia harbour, yet might the crew of the "Atiet Rachman" have there received the first of the seeds of infection which were afterwards augmented and perfected at Edam.

This febrile influence is not floating about indiscriminately, but is to be found in greater strength and virulence near the islands than at some some distance from them,—for since my attention has been directed to this subject I have made inquiries of masters of vessels who had left Batavia as their last port, and I have found that as their vessels were anchored near Onrust or Kuypers island, so was the greater chance of fever and its amount; while the vessels that escaped were those that were anchored midway betwixt the islands and the pier of Batavia, or out at sea at some distance from the islands and the town.

Pursuing my investigations as to the present state of the islands and harbour of Batavia, Mr Riley, long a resident there, thus replies to my queries. "Onrust still continues unhealthy, the Dutch Government were and most likely are still constructing additional works and a dock there, and the native labourers there employed—Javanese, Malays, Malayan Chinese, &c., were dying off as quick as ever they were known to do on former occasions. If Europeans escape at present more tolerably than in former days, it must be attributed to an improved style of living, and the exercise of greater precautions than of yore. Still the influence of the climate is plainly perceptible in the majority of those who reside at the customs."

These two islands of Onrust and Edam are not the only islands so affected with fever, for Mr Riley further mentions, "that all the islands are considered unhealthy, with some little allowance in favour of Edam and perhaps Leyden to the eastward and Amsterdam and Middleburgh to the westward; on one of the latter the Dutch Government proposed making a dock. The latter two islands are generally considered healthier than any of the rest. Edam is most likely healthy from its being so far out, say 10 miles or more. Formerly the Dutch had a Hospital on the island of Parmerent on account of its convenient proximity to Onrust, and a station for convicts at Edam, both of which have been given up on account of their unhealthiness; the Hospital having been removed to Weltevreden and the convicts to constructing various public works to the eastward. Boats crews going on shore to cut wood or for any other purpose are liable to be attacked with fever, though not so liable as on the islands nearer Batavia, but still very liable, on the authority of many captains of coasting vessels." I need not multiply authorities to show that the islands, within a circuit of 10 miles of Batavia, are eminently unhealthy, being afflicted with an endemic fever of great virulence, that occasionally, once in two or three years, breaks into an epidemic. The same fever is also met within the town of Batavia and in the appendix to Sir Stamford Raffles's History of Java we find this fever thus alluded to. "His'tory attests that this city has been highly pernicious to the health of both Europeans and natives almost from its foundation, and recent experience concurs with the testimony of history. The mines of America when they were first discovered did not more strongly allure the Spaniards, nor urged them to sacrifice more relentlessly the lives of the unresisting natives to their burning thirst of gold than the monopoly of Java and the spice islands led the Dutch company in the tract of wealth through danger, injustice and oppression." Though the unhealthiness of Batavia was at all times known and dreaded, there were times when the mortality became so extraordinary and alarming, that "an inquiry was instituted into the extent of this epidemic fever which commenced in 1733 and lasted till 1738 and during its continuance two thousand of the company's servants and free christians annually died. In 1739 its violence abated, but it broke out again in 1744 and continued with little diminution or variation to the date of the report in 1753. This fever of the town of Batavia presents exactly the same type as the fever endemic on the islands which attacks the shipping, and has been exactly described in a note to this

journal volume II page 574, and which fever in its symptoms seems to be identical with not only the fever of the Straits but with that of Labuan and Hongkong. All who reside in the town of Batavia are liable to this fever, and of those attacked one third are carried off, but it is confined in its ravages to the town and the immediate suburbs, as at the distance of 2 or 3 miles the inhabitants of Koning's plain are exempt and the inmates of the hospital at Weltevreden equally so.

In symptoms and result, the fever of the town and shipping are identical—but is the cause one and the same? To determine this I will first examine that of the town—but before proceeding further I must express my regret at my entire ignorance of the Works of the Dutch medical men who must from their great experience and national industry, have collected many useful and important facts lost to me from my ignorance of their language and the isolated situation of Singapore. I am under the necessity of taking a report of rather ancient date by Mr Robertson superintending surgeon while the English held possession of Java. In this report he attributes the fever to several causes, the first being marsh miasmata. “Batavia, built almost in a swamp, surrounded by marshes, in all directions trees and jungle which prevent the exhalations being carried off by a free circulation of air, is peculiarly obnoxious from this cause. Opposite the mouth of the river and extending a great way to the westward, is a mud bank, which at many parts at low water, is uncovered by the sea, and is daily accumulating from the quantities of mud and animal and vegetable matter carried down by the river during its reflux &c.”

“A *second* and I think an equally powerful cause is the stagnant water of the canals which in all directions intersect the city. In the first place they are filled with filth of every description, there is scarcely at times any perceptible current in them to carry off that filth, and lastly the sluices are frequently kept shut, for the purpose of swelling the waters above them to irrigate the fields, while those below which intersect the town become almost dry leaving an extensive surface of mud, and every kind of putrid matter to be acted upon by the sun, raising the most pestilential vapours with which, as before observed, the atmosphere gets most thoroughly impregnated.”

“A *third cause* is the state of the houses of the Dutch, and their mode of living, both of which must be powerful predisposing agents; and the *fourth* cause is the water, which is represented to be bad, and which, if retained for some time without boiling, generates animalculæ.”

Of these four causes, the third must be excluded from the list of exciting, as the peculiar arrangement of the Dutch houses merely assists the developement of the malaria, while the bad habit of life formerly indulged in by the Dutch (though not peculiar to them) predisposes the body to receive the exciting cause* which is malaria, and which may be generated by the other three modes above quoted. Of these three I am inclined to think that the second cause, or the state of the canals, filled as they are with decomposed vegetable and animal matter in a medium of fresh and brackish water, has much more to do in producing the endemic fever of Batavia town, than the sea mud flats to the Westward, for the following reasons:

1st. Similar places in the Straits of Malacca, Borneo, Australia and even in the island of Java, as Sourabaya, are known to be exempt from fevers, yet in those places there are extensive mud flats under tidal influence giving forth, as in Batavia, a most intolerable stench of sulphuretted hydrogen.

2nd. Of late years the endemic fever of Batavia has much decreased in virulence and the extent of its ravages; coincident with which the canals have been cleared, the mud and vegetable filth removed and many of them filled up; *this* coincidence points out such to have been the cause, and the fever the effect, for having effected these hygienic improvements the fever abated.

3rd. Although the endemic by all accounts has abated in its virulence and decreased in its ravages, yet the mud banks under tidal influence are still as before "in many parts at low water uncovered by the sea, and daily accumulating from the quantities of mud and animal matter carried down by the river during its reflux."

I would have it therefore clearly understood that I attribute the endemic remittent fever of Batavia Town to malaria arising from those parts of the town where animal and vegetable decomposition is progressing; but above all, to the impure condition of the canals and river where the tidal influence is unfelt, and from which malaria must be constantly emanating.

But is the endemic remittent fever of the island and harbour of Batavia to be attributed to the same cause as that

* June 1849. There are two English vessels in Singapore roads lately arrived from Batavia; both, while there, were anchored near to one another, but the one nearer to Batavia pier was a temperance ship where grog was not allowed, and regularity was kept; the other was the reverse. The first arrived here without a sick man, the second had many laid up with fever.

of the town?—I say *no*, and medical men, both English and Dutch, have been, and probably are, up to this moment, labouring under ignorance of the true cause.

The two most likely causes assigned for the fever of the Harbour are, first the emanation of miasm from the town and river—and from the mud flats adjacent, especially those to the westward of the town, from which most “pestilential vapours” are said to rise and be carried by the land breeze which blows at night to the islands and shipping.

This is decidedly the most popular cause both with medical men and the public in general, and appeals so forcibly to the senses that it will require strong proofs to upset it. The second is that the nature of the islands themselves is such that from the soil, “pestilential vapours” arise, which are in themselves the malaria. These two causes we will examine one after another, commencing with the first.

In Mr Wade Shield’s report already partially quoted—we find that after many had died of the fever caught on the Island of Onrust, “the commanding officer conceiving that the vicinity of the island to the mainland was the cause of sickness (which supposition seemed corroborated by the fetid mists that daily came off from thence to the Island,) ordered the sick to be removed to the small island of Edam situated nine miles at sea”, a distance, as he thought, sufficient to insure its salubrity,—“here the tragic tale commences.” This tragic tale we have already related, how of 60 soldiers landed—30 died on the spot—22 at sea, and of the remaining seven landed and lodged in the Malacca Hospital nearly all died—how that of all the sick taken from Onrust 28 in number, mostly all died—of 16 marines 13 died—and, to crown the whole, 9 officers finished on that dreadful island their mortal career. I defy the *Annals of Epidemic* to shew an equal mortality. Having learned from such dear bought experience that this island was so unhealthy, the author of the report very naturally concludes, that it could not be so from the emanations from Batavia, or the adjacent mud flats, as the further removed from the cause the greater was the effect. The island of Onrust which they had just left was unhealthy, but nothing compared to Edam—yet it lay 6 miles nearer the mainland—a second reason consists in the fact of *H. M. S. Dædulus*, being anchored mid way betwixt the island and the fort, and therefore much nearer the sources of malaria emanating from the mainland than the islands of Onrust and Edam, not having landed one man on any of the islands except two officers, yet did not lose one man, nor suffer an attack of the epidemic saving these two officers, the purser

and the surgeon, who both died of the fever, both having slept on the island. Not only did all the crew escape, but 25 men of the detachment from the 12th Regiment (whose comrades suffered so much) shared the same immunity. H. M. S. *Bravre* which was anchored at a greater distance from Batavia but under the lee of the island of Onrust lost nearly half her crew, and more than half the soldiers embarked in her.

A *third reason*, and a most convincing one, that the endemic of the islands and the shipping arises from a different cause from that of the endemic of the town of Batavia, is that in some years the fever is severe and virulent amongst the shipping, and not unusually so in Batavia, but still more frequently it has been severe in the town of Batavia and not felt in the shipping. Now such predisposing causes, as changes in the state of the atmosphere involving changes in its temperature, moisture, and electric state equally affect the town, and shipping; if then the fever is not simultaneous in these places, there must be two different exciting causes, otherwise the malaria from the mud banks and rivers &c. when it gives rise to an epidemic in the town, would do the same in the shipping.

Since the Endemic fever of the islands cannot be supposed to arise from the malaria generated on the mainland, we must examine the second cause assigned, or the nature of the soil on the islands.

Mr Wade Shields in his report, having been convinced by his experience of Edam that the fever did not arise from sources so far distant as the mainland, falls back on the islands themselves for a cause.

"Onrust is a small island three miles from the main, well cleared of trees, underwood and jungle, nearly flat and free from swamps and marshes, except one very small spot, which however is daily covered twice by the tides." To this favourable condition of the island he attributes the less deadly character of its fever compared with that of Edam; but what should give rise to that fever, less deadly though it be? He further adds, from the fetid exhalations which were conveyed by the land winds from the neighbourhood of Batavia, the sick were easily secured, by closing certain apertures in their apartments till the sun dispersed the vapours in the morning, after which there did not appear to be any danger from the Miasmata disengaged during the day. Passing on to Edam he accounts for the greater virulence of the endemic there, "by its being covered with trees, long grass and jungle, leaving a part of the island itself in a stagnant marshy state", and, warming as he proceeds, he describes as if he had seen—

"the pestitential miasmata in a concentrated form issuing from every foot of ground." In receiving this statement of Mr Wade Shields, it must be borne in mind that the island itself is not more than a quarter of a mile in diameter, and therefore if it was one entire marsh of the most stagnant kind, I am convinced, from the examination of analogous places, it could not produce such an endemic fever. Whatever it was in 1800, thirty years afterwards it was much changed, as appears from Mr Riley's account of it "it is in form and appearance like a hump, and therefore may be concluded to have no marshes. It is covered by the scrub and trees usual on small islands in the Straits." Mr Leisk, Marine Surveyor, Singapore, and long a resident in Java, speaks more decidedly as to its nature:—"it is" says he "a low coral island about a quarter of a mile in diameter, surrounded by a coral reef with a detached coral patch to the northward of it; (I am not certain whether this patch is ever dry)—the island is covered with trees and bushes but I never saw a swamp on it; it appeared to me to be dry, the soil consisting of a mixture of coral, other stones and coral sand. I have been on it twice but never found any disagreeable smell, more than on any other coral island."

From the many inquiries that I have made of those who have frequented this port, I cannot learn that the island has undergone any change for a series of years, except that trees have been cut down and thereby a more favourable state produced for generating miasm than in 1810, when the high trees prevented the full action of the sun's rays. But allowing that formerly there was a marsh—and that now (as we positively know) there is none, yet the disappearance of the marsh has not improved the climate of the island, for to this day whoever sleeps on shore or exposes himself to the influence of the winds from the island, as surely is attacked by fever as those who were cut off in 1800. If absence of vegetation and marshes ensured immunity from fever, why was and is not Onrust free, as it was then and now is like a well cleared and beautifully laid out garden? Yet is its fever very little inferior in intensity to that of Edam. In many parts of the globe, amongst the Nicobars, the Maldives and in the island of Ascension there are no marshes, yet are the inhabitants more or less afflicted with fever, showing that the island of Edam is not singular in its freedom from marshes but not of fever. In and near the Straits of Singapore a few degrees only removed from Batavia, but still under the same tropical influences, are many islands, which present appearances in vegetation exactly similar to what Mr Wade Shields would

make us believe Edam did in 1800, and those islands being destitute of adjacent exposed coral reefs, the inhabitants were free from fever or only subject to slight intermittent fevers when their houses were built close to a marsh.

I am moreover informed that there are other islands in Batavia harbour as bad as Onrust, and little inferior to Edam in the virulence of the fever, where positively no marshes exist, the only vegetation being a kind of scrub, and a few high trees. In this list is Kuypers island and Purmerent, on the latter of which an hospital was once built and was in existence when Captain Cook visited Batavia, but from the unhealthiness of the place has since been removed to Wel-treveden 3 miles inland from Batavia.

It is evident that at the time Mr Wade Shields made his report only 2 causes of fever could suggest themselves to the minds of the medical men. The first cause was the exhalation of miasm from the precincts of Batavia and the adjacent mud flats, the second was marshes, stagnant marshes on the islands themselves, from every foot of which pestilential vapours were supposed to emanate. The first cause was clearly proved by the medical men at the time not the exciting cause of the endemic; nothing was therefore left, but to fall back upon the second, and it was consequently elevated to the honour. This and the other being the only two probable causes of the endemic fever of the island and harbour of Batavia, having been considered and found not sufficient, I would now propose my theory, as a sufficient, clear, and satisfactory explanation of the cause of the endemic remittent and of the intermittent fevers of the harbour of Batavia, (Journ. Ind. Arch. vol. II p. 599.) "That whenever a coral reef is exposed at low water, animal decomposition will go on to an extent proportioned to the size of the reef, *cæt par.*, and that malaria will be the result of this decomposition, which is one and the principal cause of the fevers endemic in such localities."

According to charts, and the authority of many individuals of great experience, the islands of Onrust, Kuypers, Purmerent, Edam and others, are surrounded by coral reefs more or less exposed at low water.

Here then is the cause of the endemic fever, which, according to Captain Cook, in his time swept away by death half of the crews of vessels that annually arrived from Europe, and committed fearful ravages amongst his *own* officers and sailors who had so successfully encountered every hardship and distress in their voyage round the world,—a fever that has not yielded its sway to all the skill and science of man, and has baffled all human contrivances for its amelioration,—a fever

which in Valentyn's time, near two hundred years ago, dealt its fatal bolts amongst the adventurous sons of commerce, and which in the nineteenth century has not worn itself out.

The surface of the island has changed, marshes that did exist to a limited extent have been drained, trees have been cut down, rank vegetation extirpated and, as in Onrust, a perfect garden with pleasure walks formed, but all to no avail, the Demon disease still holds its sway, and in spite of the God-like effects of man for his extirpation, demands his tribute of human life.

No efforts of man can remove this endemic without great expence and endless labour; it will exist, but its effects may in some measure be modified by a proper arrangement of houses and living. Humbling as the thought is to proud man, with all his science he cannot stay the progress of that small polyp, that silently, slowly and surely adds dwelling to dwelling, encroaching on the shore, and filling the depths of the ocean, yet nature and only she has set bounds to its spread, by condemning it to the penalty of death whenever it rears its structure above the sea; and to prevent the land from being too closely bound so as to prevent all access to it, we have the rivers, the natural entrances to the land, kept clean by the effects of the fresh water which destroys the polyp and creates for itself channels through all the fringing reefs.

Can nothing then be done for these fair islands so pleasant to look upon, so convenient to man?—no, nothing can be done to ameliorate their condition, for in opposition to all our arts and sciences the coral will grow and near the surface, and when exposed will die and putrify, and corrupt the air; a design in itself so beneficent that although the effect is fatal to intruding man, yet that is so insignificant when compared with the utility of the great object in view that all that remains for him, is to avoid such spots—and let HIS WILL BE DONE.

If we cannot remedy the evil, without cutting and removing all exposed living coral, a never ending labour attended with great expence, the other alternative is not to expose ourselves to its influence. It would therefore be well in the Dutch Government before erecting a Dock on the Island of Middleburgh, which I understand they intend doing, to see whether there are not exposed fringing coral reefs, and whether the extremity of the reef of Ontong Java, if exposed, does not affect the island, for where such exposed reefs are, there must be endemic fever.

Without a personal examination of the islands it would be presumption on my part to point out what islands are more

healthy than others, but if this theory is correct, and my chart not wrong, the islands of Haarlem, Hoorn, Engkhuysen, and Leyden, must from the seeming absence of coral reefs be the most healthy.

In anchoring vessels I would suppose that midway betwixt the islands and Batavia, and further out, on a parallel and near the island of Leyden are the two healthiest spots, and according to more than a dozen Masters of vessels, frequent traders betwixt this and Batavia, such are the healthiest spots. To anchor near Batavia would expose the crew to the effects of fresh water in a state of stagnation and filled with decomposing animal and vegetable matter unaffected by tidal influence. And to anchor close to the islands of Onrust and Kuypers would be attended with still greater risk from the contiguous coral reefs.

From my experience of the coral exposed situations near Singapore I have drawn this deduction—that during a change of a monsoon the locality subject to coral malaria is more unhealthy than at any other time. This applies to Batavia and its islands, for in both places the effect of the change will be evident in the production of greater fever, but when the rains have set in there will be a difference, for while in islands exposed to coral influence, the persistent heavy rains of a tropical climate will destroy the coral polyp, promote decomposition and give rise to fever, such will not be so much the effect on localities suffering from fresh water swamps, for with them it is on the setting in of the dry monsoon or at the very commencement of the rainy season that fever is most prevalent. In this remark I am borne out by Dr Waitz whose Java experience is of much weight—he says “Agues during my stay at Samarang were more prevalent during the dry, than rainy season.” Count Hogendorp, lately Resident in Batavia, has found from calculations that one out of sixteen of the natives die annually, that the mortality during the rainy season is proportionally greater among old men and children under seven years, and on the contrary that the mortality during the dry season is more considerable among middle aged men. This in my opinion is in accordance with the well known fact that middle aged men are more obnoxious to fever than the aged or very young.

In concluding this chapter and before taking leave of Batavia harbour I would offer one suggestion. That if it is impossible to give up Onrust and other islands, the inhabitants should if possible be protected from the influence of the coral malaria, and which can be done to a certain extent, by planting trees and encouraging the growth of mangroves

and brushwood betwixt the houses and the reef ; for I have found, as previously stated in page 600 vol. II of this journal, "that mere proximity to a coral reef, does not necessarily imply, that the locality is obnoxious to fever; as the interposition of high land, or a belt of trees, as the primitive jungle or mangrove swamp, may act as an effective barrier."

CHAPTER II.

LOMBOK, BALI, SUMBAWA, TIMOR, &c.

If this theory that I have broached was confined in its application to Singapore alone, I would have doubted its correctness, on account of its speciality; but wherever I examine amongst the Islands of the Eastern Archipelago I find further and further confirmation. The Island of Lombok with which Singapore carries on an extensive trade has many of its ports ravaged with virulent remittent and intermittent fevers. Mr Earl in his work on "Tropical Australia" alludes to this island and the principal trading port Ampunan. "The chief commercial settlement on the Island of Lombok, which is resorted to by hundreds of ships, is situated upon an open roadstead not only exposed to the westerly gales but subject at all times to a rolling swell, which causes so dangerous a surf upon the beach, that communication with the shore is sometimes cut off for days together; yet there is a land locked harbour within the distance of a few miles (Labuan Triang) which affords perfectly secure anchorage and is accessible to ships of the largest size, but here again the climate is so unhealthy that its shores cannot be inhabited. The same rule applies to every spot similarly situated (i. e. enclosed by coral reefs and high land) throughout the Indian Archipelago." To add a little more to our knowledge of this Island I will transcribe a letter dated Singapore 23rd August 1848.

To Dr. LITTLE,

Dear Sir,

In reply to your favour of the 17th instant, as well as some previous conversations, I have hereby the pleasure to offer to the best of my ability, my remarks upon the prevailing fevers in the different places I have of late years frequented.

At Bali, fevers are very little known amongst the Balinese, they being all agricultural; another reason I should say is that they partake of a greater quantity of sound animal food than the other natives; moreover in the situation and construction of their houses which are placed in the shades of

groves of cocoanut and other fruit trees, they are much superior, for instance to the Bugis. The Bugis settlers here I have always found to suffer greatly, but it can hardly be expected otherwise when you take their living and the way they take to procure it into consideration. This people being all traders and living by fishing, have made their habitations close to where they could land their prows and generally just above the high water mark, and as nearly all the islands to the East of Java are devoid of harbours and are beaten by an immense surf, they are only able to effect their landings through the extensive reefs of coral that in some places line the coasts. I should also observe that much of their sickness must necessarily depend upon the quantity of putrid fish and the exhalations arising from the animal and vegetable matter from the reefs. The few Javanese settled here suffer also from fever, which I attribute to the same cause as the Bugis.

In Lombok island, in regard to the original inhabitants the case stands alike to Bali, wherever there is a similarity of country—but it differs as at Labuan Triang (or the cove) where there is a land locked harbour with extensive coral banks, bordering upon mud flats covered with mangrove trees and high hills to the back; here there is fever.

I have never heard of any European or Javanese who has been at Labuan Triang who has not suffered dreadfully from cold and hot fits of fever, attended with vomiting and diarrhæa, generally putting an end to the sufferings of the patient in a few days. The fevers at Ampanan are not so severe but last longer; Ampanan laying close upon the beach on a narrow strip of land has only a small streamlet which separates it from the paddy fields. It is without any shelter in the S. E. monsoon and is then exceedingly hot, which heat is increased by the reflection from the black glittering sand.

This and the proximity to the paddy fields seems to be the causes of its unhealthiness. All the natives of these islands agree that fevers are not prevalent amongst the agricultural population when they commence draining the paddy fields to cut the crops.

It is therefore my firm belief that the fevers are much influenced by the exhalations from the coral reefs, as I always have found that the greatest sufferers were in those places where they exist and where the inhabitants have their dwellings bordering upon them.

I remain &c.,

[Signed] J. C. KNUDSON.

From the experience of my friend Mr J. C., himself a sufferer, and from what was related to him during his sojourn at Ampanan, it must be considered unhealthy, more especially to those who live on shore. Few vessels visit the place without leaving one or more of their crew in the "white man's grave"; nor is it to be wondered at, when all the circumstances are considered. An open beach of sand, a number of houses surrounded by cocoa and other fruit trees, a stream of fresh water, and behind all, far as the eye can reach, ranges of paddy fields. The fever of Ampanan seems to arise from the paddy fields, as I believe there are no coral reefs adjacent; but bad as it is in point of unhealthiness, it is nothing to Labuan Triang, or the cove which is within a few miles of the open roadstead of Ampanan. There the anchorage is formed and surrounded by coral reefs exposed at low water, while on the land we have jungle but little paddy cultivation, high hills behind retaining the malaria exhaled from the reefs, so that of those who have visited it none have escaped, and fool hardy is he who ever ventures there. On the other side of the island is the town of Lombok which is considered healthy, it being free from coral reefs. To the south the coral commences and extends to the next port called Pedgue which abounds with it, and which port on the authority of Captain Knudson is considered unhealthy, but that has been denied by a gentleman lately a visitor here who has resided there for some time.

The island of Bali, which lies betwixt Lombok and Java, is considered as generally healthy, although the Dutch troops have lately found it to be the contrary, but it would be unfair to attribute all their sickness to the climate, while the Commissariat, hard work, and disasters, must come in for their share; at all events the district of Bali Badong, where the Messrs Lange have been long established, is undoubtedly healthy. In this locality we have neither paddy fields to any extent nor coral reefs, but cross the promontory to *Pantie Cunor* where ships sometimes go for repairs &c., here fever is again found though of not so violent a kind as at the "cove" at Ampanan, and here we also meet with coral reefs exposed but not locking in the harbour to such an extent as at the cove. Many other situations amongst these islands, would illustrate my theory but my object is to diffuse the illustrations so as to show the extensive applicability of the theory.

The next island to Lombok is Sumbawa which is so little known that I will quote a short description of it by Mr Earl from a Parliamentary paper, consisting of "Copies and Extracts of Correspondence relative to the establishment

of a settlement at Port Essington.' He says it is an island 150 miles long, and like Bali and Lombok contains some very high mountains; one of these the Tomboro mountain is a volcano and the country has not yet recovered the dreadful effects of an eruption in 1815 which killed many of the inhabitants and by creating a famine obliged many of the remainder to emigrate. The Dutch have a small establishment at Bimah, a bay, near the N.E. extremity of the island, which appears to be maintained chiefly for the purpose of obtaining horses. In relation to this but slightly known port Captain Knudson says "The next land locked port I have frequented is Bimah in the Island of Sumbawa. This port is a complete basin, shut up all round by very high mountains. Lining the Bay are extensive mud flats giving the most offensive odours possible, being exposed to most intense rays of the sun. In the Bay there are likewise *large oyster beds and coral reefs*. During the middle of the day the heat is so severe that it is scarcely possible to breathe, when all of a sudden a cold blast from the mountains will make a circuit of the bay and those who are exposed to it invariably suffer from headaches. The fever of this place generally commences with a cold creeping sensation along the spine, afterwards vomiting; the hot fits are of long duration and looseness is the constant accompaniment of this dreadful sickness. In fact I hardly know one European or Country-born in the place who has not been afflicted, while several deaths occurred during my three months stay. In addition to the causes assigned, viz, cold winds, coral reefs and mud flats, I must add the damp situation of the ground the houses are built on, and unlike to other people the country born inhabitants live on the mud floor, instead of having their houses elevated. During the S. E. monsoon, particularly in the months of April and May, the vapours from the mud flats and surrounding country are so dense that it is often impossible to see the vessels in the roads lying not half a mile distant from the shore. During these months the evenings are extremely hot and sultry until towards midnight, when the cold land wind sets in, which is so cool as to congeal the oil in the lamps. At this port a great quantity of fish in a putrid state is used, and the water has something of a brackish taste. For this fever the natives use as a remedy a tea made of the 'bidara laut' a bitter tasted wood found in the forest."

The island of Timor is the next referred to in my notes, and I cannot convey to the reader a better idea of Dilli, the Portuguese settlement on that island, than by transcribing a few communications on that place.

Singapore, 10th April, 1848.

My dear Sir,

I have much pleasure in answering your queries regarding Timor and the adjacent islands, and shall be happy if any information I may be possessed of will be of service to you in elucidating the enquiries you are now promoting. First, with regard to Dilli; the town is situated on the South side of Timor, the lee side during the South East trade winds which prevail in these parts during 8 or 9 months of the year; the harbour is formed by a coral reef of considerable breadth which extends along the shore at a distance of about $\frac{1}{2}$ of a mile from the beach, the intermediate space having sufficient depth of water to afford anchorage for vessels of the largest size. The reef, through which there are two narrow channels, dries at three quarter ebb and therefore remains exposed from three to four hours each change of tide, that is to say twice in the 24 hours. The beach is composed of sand and broken coral. The Government buildings and the houses of the principal residents are erected along the beach a little above high water mark. The extent of the town inland is inconsiderable;—at the back of the town is a level plain which during the westerly or rainy monsoon becomes a fresh water marsh; at other seasons it is dry except at certain spots where the water is retained in lagoons or shallow ponds. Behind this again is a range of hills rising abruptly from the plain and forming a semicircle about the town, which it thus encloses on three sides.

Owing to the peculiar positions of the north and northwest coasts of Timor, with ranges of lofty mountains extending immediately behind and obstructing the course of the trade wind, calm weather prevails throughout the year except in January, February and March, when strong breezes from the northwest are occasionally experienced, at other times the atmosphere is seldom agitated except by a light sea breeze in the afternoon, the land wind at night being scarcely perceptible. Dilli is subject to fevers both remittent and intermittent at all times of the year, there being no peculiarly healthy or unhealthy season. The natives of the interior who visit Dilli suffer even more than Europeans, and individuals residing on board of vessels in the roads are as liable to attacks as those who reside on shore. Throughout the entire north west coast of Timor the immediate vicinity of the sea shore is considered to be unhealthy, and the same may be said with regard to those of the adjacent islands with which I am acquainted. Dilli however, whether justly or not, is considered more unhealthy than any spot in the eastern

seas. I must state however that in these parts Europeans alone make their settlements on the sea shore. The aboriginal inhabitants, even those who derive a considerable portion of their subsistence from the sea, invariably reside some distance inland, going down to the sea coast only for the purpose of fishing or of trading with strangers. This renders the coast of Timor beyond the limits of the European settlements, the most inhospitable in appearance of any in the world. With the exception of about one or two, in spots frequented by foreign traders, not a habitation is to be seen except up the hills towards the interior. There, as far as regards Timor at least, the climate appears to equal that of any tropical country—indeed on the elevated plains in the interior it is considered to be scarcely inferior to that of Europe. With regard to your last query as to “what I attribute the unhealthiness of Dilli to?” I have hitherto considered that the fresh water swamps at the back of the town coupled with the stagnation of the atmosphere were the primary causes; although I have been puzzled to account for the circumstance of the plain of Baboo near Coepang being comparatively free from malaria although similarly situated to Dilli, both with regard to fresh water swamps and to a range of hills bordering it on the land side. This however is your own particular ground, and I can only wish you success in working out the theory you have so ably started. It is certain that the coasts of Timor and all the neighbouring islands have fringing reefs of coral, dry at low water wherever the coast is not absolutely precipitous, and the usually stagnant state of the atmosphere must allow any malaria that may be engendered to have free effect, and at the same time there are many spots there known to be unhealthy where the total absence of fresh water swamps (which indeed are rare enough on the coasts of the island, the land generally rising abruptly from the sea) renders it necessary that some other objects must be looked to as the exciting causes of malaria. I think I have now furnished you with answers to all the queries contained in your notes. If you require any further information concerning parts with which I am acquainted, I trust you will make no ceremony in applying for it, for I shall only be too happy if I can be of assistance to you in inquiries from which we may anticipate such important results, especially important too at the present moment, when about to extend our possessions in the Archipelago.

&c., &c.,

(Signed) GEO. WINDSOR EARL.

Captain Knudson thus alludes to this locality. "The inhabitants of the island of Timor are likewise subject to this malady (fever) but in a much more severe degree, as it seldom completely leaves a person once attacked. It is in Dilli particularly where I have seen the most sufferers. This place is completely lined with coral reefs, of which these forming the harbour stand dry at low tide. The water is likewise very bad, any thing like good water must be brought from the mountains on horse-back. Patients under Dilli fever suffer most dreadful headaches, and when the fit is on them they are delirious, the eyes are also affected and a long time elapses before they recover."

Let the reader examine the chart of Dilli, and from it a distinct idea will be formed of the nature of the port, town, and adjacent country. If such a chart was presented me, and my opinion asked regarding the climate of the locality it represents, I would say nothing ought to prove more clearly the truth of my theory, for from the disposition of the coral reefs it must be a most unhealthy spot. Fatal experience has proved it is so, few visit that port and leave it scathless, and to be there appointed by the Government to which it belongs, is considered, and has been since Captain Cook's time, as only a little better than the penalty of imprisonment. Mr A. A. visited Dilli, and contracted there the virulent fever of the place which for a very long time hung about him, nor did he thoroughly as he thought get rid of it till he tried the climate of New Zealand. Last October on his return to Singapore while in excellent health, he touched at Dilli, remained there for four days and was carried on board of his vessel more dead than alive from the fever, having his spleen so enlarged as nearly to extend over the whole abdominal cavity. He says that no one lives in the town but natives, all living in the country who can. The Governor lives about 3 miles inland on a hill and there it is healthy; betwixt that and the sea as Mr Earl describes, there is a plain, at least comparatively so, having the surface composed of gentle elevations and depressions of a very stony nature. During the wet season these depressions are filled with water, but during the rest of the year they are dry. From all accounts the fever at Dilli is prevalent at all times of the year, whether it is wet or dry, whether the wind blow off the land or the sea. But when the wind is from the East the fever is said to be more prevalent, and the cause is correctly conjectured by Mr Earl to be from the stagnation of the atmosphere owing to the proximity of high hills. That this malignant fever is not indebted to the land for its cause I would infer, from the following facts. *First* that the fever

of Dilli is always endemic, always prevalent, and always liable to attack strangers, as well as those inhabiting the inland part of the island, when they take up their residence on the sea shore, and, that equally in the wet and the fair season when the land is marshy, as well as when it is in the contrary state. *Second*, that those living inland at a distance of 2 or 3 miles from the sea, are exempt from the ravages of the fever which if it depended upon the wet state of the plain would not be the case, as they are as much under its influence as those living on the sea coast. *Third*, that those living inland where marshes exist, seldom or never contract the severe fever of Dilli until they visit that town on the sea coast. On the other hand there are many reasons to induce me to come to the conclusion that the cause of the fever is marine. *First*, there is no harbour in the east more land locked by coral reefs exposed at low water, whose influence on the inhabitants cannot be ameliorated owing to the stagnation of the atmosphere caused by the proximity of high land, than this PORT of DILLI, and there is no port in the east where fever is more prevalent or more virulent. *Second*, remove from the cause and the effect is lost, as those who live inland are exempt from fever; approach the cause and the effect is felt, as those who live inland when they visit the town on the sea coast are almost invariably attacked with fever. *Third*, the reason why fever is equally prevalent during both monsoons i. e. during the months when the wind blows off the land, and those when it blows off the sea, is that although the miasm from the coral reefs is blown during the hot monsoon on the town and its inhabitants, yet it is so mingled and diffused, that its effects are not more and perhaps are less felt than during the season when the wind coming from the east, is arrested in its progress by the chain of hills immediately behind the town, producing a stagnant atmosphere the fit recipient and menstruum for malaria.

Coepang.

The principal settlement on the island of Timor belonging to the Dutch, is situated on the south west end of the island. It is a neat clean town in which respect as well as some others, it differs from Dilli. This settlement has always been considered more healthy than the last, which my correspondent, Captain Knudson, thus accounts for: "Coepang being more exposed to sea breezes than Dilli is not so much subject to fever, and the fever is of a much less virulent character and of shorter direction, but then it must be recollected that altho' there are coral reefs in the bay, they are a good way off the

town, close to which is deep water, and the place is furnished with good water."

While the town is not so subject to fever as many other settlements, yet vessels anchoring in the bay are. Captain Brown of the "Sir Robert Sale" informs me that this is the most feverish locality that he has met with, as after anchoring there for some time, some years ago in another vessel, nearly all his crew were attacked with intermittent fever of which some died. He says in the Bay there is a coral island which dries for $\frac{3}{4}$ of a mile all around at low water, and exposes the dead and living coral. During the S. E. monsoon the wind blows off the land and ships can remain in the harbour, but in the westerly monsoon the wind blowing from the sea over the island and shipping, obliges vessels to anchor in the Samow Straits. Here is the first instance, of which we shall see several as at Padang in Sumatra &c., of the town being more healthy than the harbour, a most convincing proof that another than a terrestrial cause is exerting its influence.

Arru Islands.

The Arru islands are the next group referred to in my notes. They, according to Mr Earl "extend from North to South about 100 miles, the land is only a few feet higher than the level of the sea except in spots where patches of lime stone rock raise it to the height of about 20 feet, the inland parts of most of the islands consist of fresh water swamps, and the jungle is so thick that it is seldom penetrated by the natives."

Captain Wolfe of the "Velocipede" while trading amongst the islands was attacked with the usual fever of coral localities, a low remittent, which hung about him for months, and it was not until he had been under treatment in Singapore that he got free of it. He states that coral exposed at low water is to be found every where, and he has no doubt in his own mind, that the malaria which attacked him and produced his fever could not be attributed to the swamps, as the jungle prevented his feeling their effects or seeing them.

Port Essington.

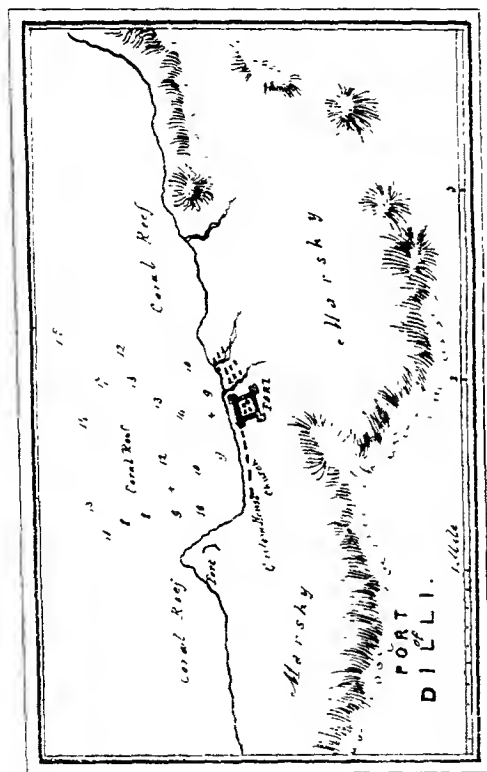
The next locality I shall examine in this Chapter is Port Essington, a settlement that was considered at one time eminently healthy, but after experience has proved to be the contrary.

In Earl's "Tropical Australia" we find this description of the locality where Port Essington is situated: "for while the climate of the Cobourg Peninsula generally may be pronounced as one of the finest that can be found within the tropics, there are certain spots which are so unhealthy, that even

the natives of the country cannot reside there with impunity ; one of the most conspicuous of them is Port Bremer, a land-locked harbour to the eastward of Port Essington, the shores of which are so pregnant with malaria, that the natives never take up their abode there, and the Macassar trepang fishers, who have resorted to it, on one or two occasions suffered so much from fever, that although the harbour abounds with Trepang they avoid it most scrupulously. The upper parts of the inner harbour of Port Essington are also regarded with great dread by the Macassars, who previous to our arrival invariably anchored their prahus at Point Record, although the Trepang is only found in large quantities within the inner harbour."

"During nearly four years subsequent to the occupation of Port Essington, very few cases of fever, and not one of death, occurred among the garrison, but towards the close of 1842 fevers generally tertian, became prevalent, and when I left the settlement in September last year, I believe that not a single individual residing there had been entirely free from attacks. These generally had not been very violent, 6 cases only having terminated fatally, but the mortality was sufficiently great to cause a considerable degree of uneasiness on the part of the authorities. We at first supposed that this liability to sickness arose from the constitutions of the men having become impaired by long residence in a tropical climate ; but it was found that individuals who had recently arrived were equally subject to attacks of fever and ague."

This last sentence fixes the cause of the fever to something connected with the locality. This something is according to Mr Earl " malaria engendered by mangrove swamps and by mud banks exposed at low water," but knowing that this "alone is insufficient to give rise to the insalubrity that affects certain spots, from the fact that Singapore near the southern extremity of the Malay Peninsula, and Sourabaya the capital of the eastern districts of Java, are very unfavourably situated in this respect, and are at the same time the most healthy of all the European settlements in the Indian Archipelago," "the only peculiarity in their position that tends to afford a clue to the mystery, consists in their being situated upon narrow straits through which the tide flows with great rapidity." I allow that a rise and fall of tide has great ameliorating effects on sea mud flats and mangrove marshes, and that a narrow strait where the current of water will be accelerated, will add to the good effects, but the ingenious explanation is far from sufficient, in which the talented and sensible author I believe



Sketch of the Mouth of the River Singapore

now concurs, having, I am proud to say, given in his acquiescence to my coral theory. That the mud flats and mangrove swamps of the Cobourg Peninsula, are not the engenderers of malaria I am fully convinced from analogy, as I make bold to assert that there is not a settlement in the Indian Archipelago rendered unhealthy by mangrove swamps or mud flats, provided such are subject to tidal influence, and free from the influence of coral reefs and fresh water swamps.

"The inner harbours of Port Essington, Port Bremer and Limba Assin are the only spots subject to malaria" "though I think it will be found at Knocker's and Raffles's Bays from the circumstance of the natives seldom residing there except occasionally for a few days" The interior of the country appears to be free from malarious influence, as hunting parties have been out for weeks together without one individual suffering ill effects from such exposure.

From the examination of the charts of the Coburg Peninsula, the above localities are directly exposed to the influence of the coral reefs which abound at the entrance of these harbours, and are exposed at low water, with the exception of Port Essington, which seems to be so in such a slight degree, and that in the upper part of the inner harbour, where however the natives will not anchor, that I am inclined to attribute the fever of the settlement of Victoria to fresh water swamps, which I believe are in existence there. At all events I would leave the cause of the fever of the inner harbour of Port Essington as doubtful, but consider that of Port Bremer, Limba Assin, and Raffles's Bay as decidedly proceeding from coral malaria.

Sulu.

Leaving this part of the world, and taking an extensive stride backwards to the N. East of Borneo, we fall in with the Sulu group of islands, the fever of whose principal town I will briefly mention. This town of Sulu has much faded from its former greatness, when little more than half a century ago its pirate prahus swept the surrounding seas, and successfully contested the possession of the adjacent shore of Borneo with us. It were endless to trace the causes of this fall, for it seems natural and in the way of Providence that the natives shall degenerate and fade away before European influence; but there is a cause at present working, evident as it is irresistible, in its effects, to which the *Datus of Sulu* owe more of their degeneracy and loss of power than to any influence which Europeans can exert; it is the *immoderate*

use of opium. The town is situated on the beach and divided into two portions, one belonging to the natives, the other inhabited by the Chinese settlers; behind the town is elevated ground and in the distance high mountains rear their heads aloft; many of the houses are built on stakes on a mud flat similar to what we see in the generality of Malay villages but which mud flats are under tidal influence. To the west is a narrow promontory and outside that is a large bank of coral, dry at half tide. Both Captain Wolfe of the *Velocipede* and Mr Wyndham a merchant and settler at Sulu, state that during the N. E. monsoon when the wind blows over the land the town is healthy, but when it changes to the S. W. monsoon and during the continuance of that monsoon the town and shipping are liable to fever. During the N. E. monsoon if any malaria is generated on the land by fresh water swamps &c, it is diffused and dissipated and carried away to the open sea where its effects are lost, but during the S. W. monsoon the wind blows from the sea over the *exposed* coral reef, and brings in its train sickness and fever especially during the months of May and June, October and November, when the effects of the miasm are much felt, as in these months rain and sunshine alternate, while there are no strong currents of wind to dissipate it; it then rises during the day and falls with the dew at night, adding one more to the list of localities more unhealthy during the changes of the monsoon when under the influence of coral malaria.

Labuan.

To conclude this chapter and *part third*, I will briefly advert to Labuan, our new settlement on the N. Coast of Borneo. The majority of residents even for a short time on this island have suffered from the fever that seems to be endemic there; when severe, putting on a remittent type, when less so an intermittent, and in almost all cases where it does not cut off the patient, leaving him liable to intermittent attacks for many a long month after. This fever attacks all indiscriminately, from the governor down to the poor China cooly, equally affecting the pliant constitution of the Kling, and the unyielding, stout and steady frame of the English Marine, and like all other fevers, its first victims are those who worship the bottle.

To the China cooly, whose constitution, enervated from the abuse of opium, cannot stand up against its attacks, it may be looked upon as almost fatal, and it is equally so to the marine whose plethoric state of body, the result of overfeed-

ing and no exercise, fires every fever until the patient sinks under an acute inflammation of some vital organ. But to the European, who combines moderate, and generous living with sufficient exercise, although he may at times suffer from it, yet it will be but slight.*

The spot where the houses were first built upon is no doubt unhealthy, but I have every reason to believe, that where they now are placed it will not be so to such an extent. The most unhealthy months are during the changes of the monsoons during May and June—October and November, but from April to November may be reckoned more unhealthy than during the rest of the year.

Only two causes can operate upon the settlement to produce fever, *first* fresh water swamps, *second* coral reefs. The last exist in the Harbour, but not being exposed cannot exert any influence. At a trifling distance from the harbour exposed coral reefs are to be met with, while the adjacent islets are surrounded with them, as Pulo Burong, Daat Kolin, Papan &c., and the first island the natives say is most unhealthy, the “air being poisoned”, it has no marshes—but exposed coral is to be seen at low water. I consider it therefore an open question whether Labuan is rendered unhealthy from its limited fresh water swamps, or from the exposed coral reefs found at some distance, although the following facts are so strong as almost to amount to conviction that the cause is marine and therefore from the coral reefs. 1st. the E.I.C. Steamer *Phlegethon* when anchored at Labuan had many of her men attacked with fever, and Dr Minter of H. M. Steamer *Medea* writing from Labuan to me, stated his conviction that the fever was owing to emanations from the coral reefs, as during and before the time when her crew were sick, the wind blew from the sea over adjacent coral reefs, and not from the land where the marshes were supposed to be. 2nd the E. I. C. steamer *Nemesis* has just landed 9 men affected with remittent fever, of whom 2 have died, besides three presenting premonitory symptoms, and 5 natives slightly affected. This steamer had been 7 days from Labuan when the fever broke out in Singapore roads. Of these 7 days, 2 had been spent at Sarawak, which is well known for its salubrity, there never having been a case of remittent fever arising from indigenous influences. Previous to its departure from Labuan

* The Colonial Surgeon who now goes home an invalid, although he has had fever yet that is not the cause of his temporary retirement from the scene of his active labours, his hepatic derangement having been contracted before his residence on the island.

the steamer had been anchored within a quarter of a mile of the shore in the harbour, and one mile or so to leeward of exposed coral reefs. This situation was occupied for 5 days, previous to which it had been at Rubong Point on the north end of the island for some time, and while there the crew were quite healthy. The miasm must therefore have been received at the Harbour of Labuan. During the time they were at this anchorage the wind blew steadily from the south or S. W., from the sea and over the coral islets and exposed coral reefs, the nearest of which is near the islet of "Enow" as seen in a "chart of Labuan Island made from the surveys of Captain Bethune and Sir E. Belcher". Within a few yards the *Royalist* was anchored, and therefore exposed to the same causes, and so sickly was she that the *Nemesis* towed her out, having out of her small complement 25 men and 3 officers laid up with fever. Among the sick of the *Nemesis* are two quarter masters who were never exposed to sun or rain, being under an awning during the day, and the men, while the steamer was at anchor in the harbour, were not allowed to go on shore in case they might make free with the bottle. 3rd. The fresh water marsh is so limited and so protected from the sun's rays by high trees and jungle, that, reasoning from analogy, I would say that it could exert very little influence in producing fever; if there had been paddy fields or cleared fresh water marshes to any extent, no doubt would have existed that they could occasion fever to those located near them, or to those at a distance when the wind blew over them. Again, it is not during the rainy season that marsh miasm is in its greatest activity, but when the rains have ceased, and the ground, from evaporation, becomes dryish. The contrary is the case with coral miasm, which is most active during the wet season. Now the fever at Labuan has been most active during the wet season.

Can there be a doubt after this that there is some malarious influence engendering fever in the harbour of Labuan? During the N. E. monsoon the wind blows over the island, and from the open sea in the N. E. direction where there are no coral reefs exposed, and then there is no fever. Even those who contracted it during the S. E. monsoon recover in this. If the cause or causes of fever be terrestrial we would have it in the N. E. monsoon, but such has never been the case* as fever never existed but in the S. W.

* Captain Wallage, of the *Nemesis*, was written to by the Admiralty as to the means he adopted for keeping his crew so healthy when at Labuan,

monsoon when the wind blows from the sea over the islets surrounded by coral exposed at low water.

But whatever be the causes, I would reiterate my recommendation that all dwelling houses be built on the N. E. side of the Island, and that the intervening jungle betwixt it and the Harbour be left in its primitive state, taking care however to drain the swamps. The immunity enjoyed by the N. E. side of the island does not extend to the houses built on the eminence.

I find that it is impossible to finish this most important subject, without inflicting on the reader *part four*, which will treat upon the feverish localities in Sumatra, Nicobar, Maldives &c. &c. and the objections that may be advanced against this theory.

but the secret is that he was always there when the wind blew from the island and never during the S. E. monsoon for any time, which was the reason of the good health of his crew, as the same precautions are now used when they are feverish.

MISCELLANEOUS.

TO OUR READERS.

WE propose, if our correspondents will second us, to enlarge this part of the Journal a little. We have always regretted that, with such abundant materials for variety, our necessities have not allowed of our giving more than a few papers in each number. The time requisite to enable us to remedy this defect ourselves would entirely prevent our continuous investigation of what may be considered the elements of a true knowledge of the races of the Archipelago, the mutual relations of their languages, a labour which, although not immediately advantageous to our readers, will, we hope, in no long time be found to be as productive for them as it is necessary for us. Until our hands are loosened, we must ask our contributing and corresponding friends to assist us in our endeavour to give every month a number of miscellaneous paragraphs. No subject need, at the very longest, exceed five pages, while half a page or a sentence or two would be long enough. We ask only brief notices of animal or vegetable habits; of the climate or weather; of any of the thousand traits by which the races who resort to Singapore are distinguished; of such things as a native trading boat and her lading, or a native shop, its contents, mode of conducting business, keeping accounts, &c; a passing thought on any of the facts which human life is continually presenting in Singapore, making them significant and instructive by comparison with other communities of our own day, by glimpses of the past which still speaks through them, or by a clearer vision of their relation to immutable natural laws. Our category is large enough for all tastes and turns of mind, and all opportunities of observation, and we hope that among our many readers who have not time or inclination to write papers, not a few may be willing to aid us in the way we wish. One subject we may point out as very worthy of observation, and which has been strangely neglected. This is the influence of the climate

and weather on our cultivated trees, the time they take to come into bearing, the average proportion of abortive blossom during the first year or two of their inflorescence, the different habits in this respect of trees planted at the same time, and in the same or different kinds of soil. If notes on these things were sent us by several of our readers during the current year, it is certain that the notes during the succeeding year would present remarkable contrasts in many respects and lead to interesting conclusions. It appears to us that every year here has a peculiar climate with a peculiar operation on vegetation, although it is probably the fact that the climate of one year is closely repeated at intervals by another. We allude chiefly to the distribution of rain over the year, which again depends on the winds. The slight lowering of temperature produced by a week or two of clouds and rain, we have often seen to produce a temporary winter in the middle of our summer, followed, on the succeeding sunny weather, by a spring. Connected with this is the period in the 24 hours when the clouds gather and rain falls. Throughout any one year there is a regular march of changes in this respect, and one year, with all its own peculiarities, must have a considerable resemblance to another. At one time we see clouds gathering and rain often falling in the morning for weeks together—then we have them in the middle of the day or the afternoon—then again at night—at one period coming suddenly and soon gone—at another keeping entire or partial possession of the sky for many days together. All this, extremely interesting to observe and which can now be so well observed from the numerous beautiful residences that have lately sprung up as if by magic to crown the summits of the hills around Singapore, has never yet been recorded, and we may be assured that its record for one year would furnish most important matter for comparison with any other, and lead to the discovery of some laws which the more narrow if more exact observations at the Observatory have failed to seize. In truth such a record would give living flesh to the dry skeletons of the Observatory tables of figures.

Two series of papers which we planned some time ago we are still exceedingly desirous of carrying out, but fear that, without some assistance, we shall not be able to do so speedily. The matter accumulated in the Dutch periodicals is becoming so great, that, taken with the papers and books on the Archipelago that occasionally appear in France and Germany, we can see we must soon abandon the attempt

to communicate even a small part of them by translation. The best method will be to take up particular subjects, and embody the latest information that can be gathered from all the sources open to us. To keep pace with the Javanese and Continental publications will demand every hour we can command, so that we can hardly hope to carry out the series of papers in question without a more general literary aid on the part of our Straits supporters. The first of the projected series is an account of the trade of Singapore with each place in the Archipelago with which it has any commercial connection, embracing the kind, amount and value of commodities; the vessels in which they are carried; the classes of persons employed in the trade as owners, freighters and crews; the peculiar modes in which the trade is conducted, joint adventures, maritime laws or customs &c. Some of the requisite information we can obtain from the courtesy of the local authorities, some lies directly in the field of our enquiries into the languages and races; but the most practical part is so entirely foreign to our pursuits that we could not acquire it without a great sacrifice of time, and after all it would probably be crude and imperfect. Now what would cost us so much to do badly, there is not one of our numerous mercantile supporters who could not do readily and well. If they will let us make a bargain with them, we promise that if they will assist us a little in this matter, we shall give them more practical information about the Archipelago than we have hitherto been able to do, distracted as our attention has been. The very liberal support which we have received from them, and without which the Journal could not exist, testifies that they consider it a public undertaking which, for the sake of Singapore, they would not willingly let die, but rather foster during its early struggles and shortcomings, in the hope that it may ere long become a fitting medium of communication between observing and enquiring men resident here and their countrymen elsewhere, and a less unworthy representative of the principles and intelligence of Englishmen in the Archipelago. We address our local mercantile readers in this feeling. The object is a common one, from which we individually can gain nothing more than what our contributors and supporters share with us, the pleasure of acquiring and communicating information and aiding in the spread of humane feelings and just principles of action, both politically and socially, towards the natives of the Archipelago. We do not therefore hesitate to solicit

the assistance which we feel is necessary to make the Journal as comprehensive and practical as it ought to be in the position which it occupies. The second of our projected series of papers is an account of Singapore in all its aspects. Its history and system of government has been undertaken by a friend; a general sketch of its geology and ethnology we shall endeavour to offer ourselves; but a great many subjects remain in which we shall be very glad to receive assistance. We need only mention its native vegetation and animals, of which no good account has yet been published; its cultivated plants; the numerous arts practised by different classes of natives, many of which present curious characteristics &c. We hope to see the cultivation of all our other fruit bearing trees described as that of the nutmeg has so well been, and we hope to hear a great deal more about the nutmeg itself. We trust our Pinang friends will not keep their observations of half a century to themselves, but give us their ideas also of the best modes of cultivating the spice and other trees. The number of intelligent Europeans who now have opportunities of observing these trees is very considerable, and we beg of them to favour us from time to time with notes of anything that may strike them, in the culture, habit, diseases, time of bearing, average produce or longevity, of any cultivated tree or plant which grows under their eyes.

In addition to such original matter as we can give or get, we shall insert extracts from works relating to the Archipelago. Short paragraphs are sometimes more thoroughly significant when the attention is thus entirely fixed on them than when read as part of a whole, for we do not always do authors the justice to read as reflectively as they wrote, and some part of their meaning not seldom escapes us.

We shall also give such extracts from books not directly relating to the Archipelago as may help us to a better understanding of it. Here we must be content to observe what the great intellect of Europe illuminates for us. Not a year passes there without some brilliant discoveries or thoughts, which may serve to light up regions for observation and speculation that have hitherto lain before us as much unseen as if they were not. A frequent reverting of the mind to these European influences is above all necessary for us in a science which is rapidly asserting for itself the highest rank of all, but which will not attain it till a generation or two with some new William von Humboldts have lived, and which we must be satisfied in the mean while to rank as the noblest in its

subject and the loftiest in its aims. We have not yet learned its rudiments, but already it is reaching back in time to the beginnings of human races and stretching its hand in space to cover all the nations of the earth, already the antipathies of race and creed and the barriers of language are melting away before it, and all those diversities of human form, habits, speech and belief, which once served only to breed mutual prejudice, dislike and hatred, are now seen to serve for mutual illumination and advancement, and above all to "assert eternal Providence and justify the ways of God to man." The God of nations is seen working everywhere and in all time, and the revelations of his being in the wonderful diversity of human races and conditions of mind, are far more clear and complete, and therefore more true, than those which nature can make to any man who looks abroad from the depths of his own nature on his own people only. Materials are fast accumulating, and the spirit will soon spread, for really scientific investigations of races. When the ethnology of Europe shall present the life of every race of man in full and genial description, it is impossible to overrate the advance that will have been made for education, philosophy and religion; and, we may add, for the material welfare of man also, for all other improvement proceeds from that of the mind, its tendencies, methods and habits. The perfecting of ethnology will be the latest and noblest scientific product of Christianity, for it is eminently the science of Christianity, on the spirit of which it depends in its very origin and at every step of its progress. We shall bear in mind, in making our extracts of this class, that the spiritual wisdom of a Carlyle is even more essential to a sound and true cultivation of ethnology than the comparative physiology of a Blumenbach and a Prichard, and the philology of a Humboldt and a Bopp.

In conclusion we have only to guard against our being responsible for paragraphs to which no name or initials may be annexed, since it is probable that many of our readers for whose assistance in this department we confidently look, will prefer to remain incognito. We shall however in our annual index give the names of all contributors who do not prohibit our doing so.

PULO DINDING IN 1688 *

THIS is a small island lying so nigh the main, that ships passing by cannot know it to be an Island. It is pretty high land well watered with brooks. The mould is blackish, deep and fat in the lower ground : but the hills are somewhat rocky, yet in general very woody. The trees are of divers sorts, many of which are good timber, and large enough for any use. Here are also some good for masts and yards ; they being naturally light, yet tough : and serviceable. There is good riding on the east-side, between the island and the main. You may come in with the sea breeze, and go out with a land wind, there is water enough, and a secure harbour.

The Dutch, who are the only inhabitants, have a fort on the east-side, close by the sea, in a bending of the island, which makes a small cove for ships to anchor in. The fort is built 4 square, without flankers or bastions, like a house : every square is about ten or twelve yards. The walls are of a good thickness, made of stone, and carried up to a good height, of about thirty foot, and covered over head like a dwelling house. There may be about twelve or fourteen guns in it, some looking out at every square. These guns are mounted on a strong platform, made within the walls, about sixteen foot high ; and there are steps on the outside to ascend to the door that opens to the platform, there being no other way into the fort. Here is a Governor and about twenty or thirty soldiers, who all lodge in the fort. The soldiers have their lodging in the platform among the guns, but the Governor has a fair chamber above it, where he lies with some of the officers. About a hundred yards from the fort on the bay by the sea, there is a low timbered house, where the Governor abides all the day time. In this house there were two or three rooms for their use, but the chiefest was the Governor's dining room. This fronted to the sea, and the end of it looked towards the fort. There were two large windows of about seven or eight foot square ; the lower part of them about four or five foot from the ground. These windows were wont to be left open all the day, to let in the refreshing breeze ; but in the night, when the Governor withdrew to the fort, they were closed with strong shutters, and the doors made fast till the next day. The Continent of Malacca opposite to the island, is pretty low champion land, clothed with lofty woods ; and right against the Bay where the Dutch fort stands, there is a navigable river for small craft.

* The Dindings were ceded to us some years ago by the Raja of Perak but we have not heard that the cession was accepted by the Government of India. Dampier's amusing account is the only one we have ever seen—Ed.

The product of the country thereabouts, besides rice and other eatables, is tutaneg, a sort of tin; I think coarser than ours. The natives are Malayans, who, as I have always observed, are bold and treacherous: yet the trading people are affable and courteous to merchants.

These are in all respects, as to their religion, custom, and manner of living, like other Malayans. Whether they are governed by a King or Raja, or what other manner of Government they live under, I know not. They have canoas and boats of their own, and in these they fish and traffic among themselves: but the tin trade is that which has formerly drawn merchant strangers thither. But, though the country might probably yield great quantities of this metal, and the natives are not only inclinable, but very desirous to trade with strangers, yet are they now restrained by the Dutch, who have monopolized that trade to themselves. It was probably for the lucre of this trade that the Dutch built the fort on the island; but this not wholly answering their ends, by reason of the distance about it and the rivers mouth, which is about 4 or 5 miles, they have also a guard-ship commonly lying here, and a sloop with 20 or 30 armed men, to hinder other nations from this trade. For this tutaneg or tin is a valuable commodity in the Bay of Bengal, and here purchased reasonably, by giving other commodities in exchange: neither is this commodity peculiarly found hereabouts, but farther northerly also on the coast; and particularly in the kingdom of Queda there is much of it. The Dutch also commonly keep a guard-ship, and have made some fruitless essays to bring that prince and his subjects to trade only with them; but here overagainst P. Dinding, no strangers dare approach to trade; nei her may any ship come in hither but with consent of the Dutch. Therefore as soon as we came to an anchor at the east-end of the island, we sent our boat ashore to the Governor, to desire leave to wood, water, and cut a new mizen-yard. He granted our request, and the boat returned again aboard, and brought word also that Mr Coventry touched here to water, and went out that morning. The next morning betimes Captain Minchin sent me ashore to cut a yard. I applied myself to the Governor, and desired one of his soldiers might go with me, and shew me the best timber for that use; but he excused himself, saying, that his soldiers were all busy at present, but that I might go and cut any tree that I liked. So I went into the woods, where I saw abundance of very fine straight trees, and cut down such a one as I thought fit for my turn: and cutting it of a just length, and stripping off the bark, I left it ready to be fetched away, and returned to the fort,

where I dined with the Governor. Presently after dinner, our Captain, with Mr Richards and his wife, came ashore, and I went aboard. The Governor met them at landing, and conducted them into the dining-room I spoke of, where they treated the Governor with punch, made of brandy, sugar, and lime-juice, which they brought with them from aboard: for here is nothing, not so much as the Governor's drink, but what is brought from Malacca: no herbs or fruit growing here: but all is either fetched from Malacca, or is brought by the Malaysans from the Main. It is not through any sterility in the soil, for that is very fat and fruitful: neither is it through laziness of the Dutch, for that is a vice they are not guilty of: but it is from a continual fear of the Malaysans, with whom though they have a commerce, yet dare they not trust them so far, as to be ranging about the island in any work of husbandry, or indeed to go far from the fort, for there only they are safe. But to return to the Governor, he, to retaliate the Captain's and Mr Richard's kindness, sent a boat a fishing, to get some better entertainment for his guests, than the fort yielded at present. About four or five o'clock the boat returned with a good dish of fish. These were immediately drest for supper, and the boat was sent out again to get more, for Mr Richards and his lady to carry aboard with them. In the mean time the food was brought into the dining-room, and placed on the table. The dishes and plates were of silver, and there was a silver punch-bowl full of liquor. The Governor, his guests, and some of his officers were seated, but just as they began to fall to, one of the soldiers cried out, "Malayans," and spoiled the entertainment; for immediately the Governor, without speaking one word, leapt out of one of the windows, to get as soon as he could to the fort. His officers followed, and all the servants that attended were soon in motion. Every one of them took the nearest way, some out of the windows, others out of the doors, leaving the 3 guests by themselves, who soon followed with all the haste they could make, without knowing the meaning of this sudden consternation of the Governor and his people. But by that time the Captain and Mr Richards and his wife were got to the fort, the Governor, who was arrived before, stood at the door to receive them. As soon as they were entered the fort, the door was shut, all the soldiers and servants being within already: nor was any man suffered to fetch away the victuals, or any of the plate: but they fired several guns to give notice to the Malaysans that they were ready for them; but none of them came on. For this uproar was occasioned by a Malayan canoa full of armed men that lay skulking under

the island, close by the shore : and when the Dutch boat went out the second time to fish, the Malaysans set on them suddenly, and unexpected, with their cressets and lances, and killing one or two, the rest leapt overboard, and got away, for they were close by the shore ; and they having no arms were not able to have made any resistance. It was about a mile from the fort : and being landed, every one of them made what haste he could to the fort, and the first that arrived was he who cried in that manner, and frightened the Governor from supper. Our boat was at this time a-shore for water, and was filling it in a small brook by the banquetting house. I know not whether our boat crew took notice of the Alarm, but the Dutch call'd to them ; and bid them make haste aboard, which they did ; and this made us keep good watch all night, having all our guns loaden and primed for Service. But it rained so hard all the night, that I did not much fear being attacked by any Malaysans ; being informed by one of our Sea-men, whom we took in at Malacca, that the Malaysans seldom or never make any attack when it rains. It is what I had before observed of other Indians, both east and west : and though then they might make their attacks with the greatest advantage on men armed with hand-guns, yet I never knew it practised ; at which I have wondered ; for it is then we most fear them, and they might then be most successful, because their arms, which are usually lances and cressets, which these Malaysans had, could not be damaged by the rain, as our guns would be. But they cannot endure to be in the rain : and it was in the evening, before the rain fell, that they assaulted the Dutch boat. The next morning the Dutch sloop weighed, and went to look after the Malayan ; but having sailed about the island, and seeing no enemies, they anchored again. I also sent men ashore in our boat to bring off the mizen-yard that I had cut the day before : But it was so heavy a kind of timber, that they could not bring it out of the woods. Captain Minchin was still ashore, and he being acquainted with it, desired the Governor to send a soldier, to shew our men what trees were best for our use : Which he did, and they presently cut a small tree, about the bigness and length of that which I cut, and brought it aboard. I immediately went to work, and having fitted it for use, bent my sail, and hoised it up in its place. In the evening Captain Minchin and Mr Richards and his wife came aboard, having staid one night at the fort ; and told me all that hapned to them ashore.

DAMPIER

OPIUM SMOKING.

Singapore, 11th July, 1849.

To-day a Coroner's Jury of Chinese having brought in a verdict on the body of a poor Chinaman to this effect: "That the deceased "Tan-ah-Sah" died by the visitation of God through age, and sickness, brought on in a great measure by the use of tye tinco" (or the refuse of opium)—reminds me that 18 months ago, through your Journal, I published a short article "on the habitual use of opium in Singapore." During the time that has elapsed since its publication, I have had many opportunities of verifying the conclusions and statements therein advanced "of the great evils resulting from the use of opium," and during my official experience as Coroner, I find that to all the evils resulting from its use, there is one more to be added of no small importance, viz, suicide. A Chinese artizan in health may be said to be in comparatively affluent circumstances—for by ordinary, usually very light, labour he can earn from 5 to 10 dollars a month, and can, according to his economy, save from 1 to 7 dollars a month—but let him take to opium, he at first spends but little, not more than a dollar a month; and small the sum appears for moments of great gratification, when the mind seems to have left the vile body of the workman, and revels in imaginative transmigrations into great and rich men, in a paradise of feasting and sumptuous living; and this gratification is not confined to the imagination, but extends to the body, throughout the whole frame a thrill of pleasure seems to run, the blood feels as if it galloped through its vessels, the strength of a giant is added to muscles that were puny before, the eye that was dull now sparkles, laziness is followed by activity, inertia by restlessness, and intense desire takes the place of former apathy. This excitement repeated day after day soon diminishes in intensity unless the supply is increased—so that the smoker of 2 years duration requires 2 to 3 dollars a month to procure what one did in his first year's probation, until at last from a fractional part of his wages, say a 6th or an 8th, dedicated to the demoralizing vice $\frac{2}{3}$ to $\frac{5}{8}$ of them are now the sacrifice. To the sacrifice of income, is added that of health—the muscles have lost their tone, the mind its force; lassitude, languor, and debility have now succeeded to that sprightliness, and consciousness of corporeal strength, the strong man's delight, sickness quickly follows with its train of diverse maladies, until exhausted in vital and deranged in physical powers, with an enfeebled mind, the poor wretch lifts his hand against

himself and perpetrates by an act of suicide the most horrible of all murders. On the 9th February 1849, an inquest was held on the body of "Oh Chin Sing" a Chinese at Tanjong Pagar. "The body was that of a male Chinese about 25 years of age, yellow, emaciated, and diseased looking, with a wound on the head as by a bruise, and a deep penetrating incision in the upper part of the abdomen, cutting into that cavity, as well as into the chest; with 3 superficial wounds near as if inflicted by a knife" According to the evidence of his friends and those he lived with, the deceased had been sick for 24 days of a pain and craving at his stomach; he had been an opium smoker to a great extent, but being at that time poor he could not obtain his usual supply; mad with a craving he could not satisfy, and a pain he could not allay, he often expressed a wish to die. In the morning he attempted to kill himself by striking his head with an iron pot, which broke and bruised his head, and in the afternoon being surrounded by his friends, and only separated from them by a mat, he laid his abdomen and chest open with a razor, to such an extent that his bowels protruded on the bed he lay on, yet a slight moan only revealed his agony, and not till his friends saw the blood trickling from his couch, did they suspect what he had done; and done so effectually, that in half an hour after he died, with the razor firmly grasped in his hand. On the 17th of June 1849, an inquest was held on one "Cho-ah-Keow" who was admitted into the Pauper Hospital the day before, with his throat cut by an instrument used as a chopping knife (similar to the large knife used by cooks in England for mincing) and who died some hours after. On the evidence of Lim-ah-Chew "the deceased was a palanquin maker, had been sick with diarrhoea for 20 days, he could not bear the pain and so cut his throat." "The deceased was an opium smoker, and the witness is one when he has money." The deceased frequently mentioned his intention of dying as he "could not bear the pain and had no opium." When he was admitted into the hospital, he had slight or no symptoms of diarrhoea upon him, and as that complaint is known to all not to be attended with much pain, no doubt was left in the Coroner and Jury's mind that the deceased had committed suicide while labouring under the agony induced by the want of the drug. Many cases have lately presented themselves to me, where no other cause could be assigned for death than the want of opium, and the diseases which the former abuse of it created. I understand that new legislative measures are about to be framed in Bengal regarding the revenue from the sale of opium. If the local

authorities in Singapore would only lay before the Legislative council a plain statement of the evils resulting from its use, I feel sure that for the sake of \$7,500 a month (the revenue obtained from the sale of the opium farm last year) they would not by its encouragement, physically deteriorate and demoralize so many thousands of the inhabitants of this island. To finish this epistle, I will give the remarks on the trading in opium by a partner in one of the most extensive mercantile houses in China, and which has dealt more than any others in the drug.

R. LITTLE.

IS THE OPIUM TRADE TO CHINA ONE IN WHICH A CHRISTIAN
MERCHANT CAN ENGAGE?

The morality or immorality of the opium trade has been much discussed during the last twelve years, and it is undeniable that the question admits of able arguments on both sides, if we take no higher ground than the ordinary morality of the world.

On the one hand, it has been said that opium is a pernicious article of luxury or a poison, and that by smuggling it into China, we break the laws of that Empire and injure our fellowmen;—while on the other hand it has been argued, with some show of truth, that opium is only poison to those who abuse it, that the foreign merchant does not smuggle it into China, but merely brings it to its shores, to be purchased by the natives under the very eyes of their own government, with little more than a show of objection, and therefore, that it does not deserve the epithet of smuggling, and further that a merchant is a mere agent between supply and demand, and that when these two elements of industry are brought to bear upon one another in any given field of commerce, their consequences concern him no farther than the extent to which he can benefit himself by the interchange of the commodities.

But to those taking a leading management or having a leading interest in the trade, and who believe in the Christian religion, it is submitted for their serious consideration, whether the opium trade to China is not exerting a directly hostile influence on the spread of Christian truth, and whether they are not thereby exposing themselves to the frown of that God whose truth they are engaged in counteracting?

Let it be borne in mind that the importation of opium into China, and its consumption in the country, are really and truly prohibited by the Chinese government, however much its efforts may have been frustrated by the corruption of its

officers. And further, that the effects of opium smoking on the population have been ascertained to be most pernicious and ruinous both morally and physically, although the latter point may not be at all times apparent.

Consider now the position of the whole trade as may be shewn prominently in one instance, namely, at the port of Fuhchow. At that port the only foreign influence at work (if we except the Consular officers) consists of a considerable band of Christian missionaries and the contraband opium trade, for no other foreign trade there exists. Christianity and the opium trade are here apparent as conflicting interests on one common field, they are in strong and palpable contrast as principles of good and evil, and their bearing on the whole of China though more complicated, so as to confuse and confound men's minds, is not the less reducible to these two simple elements of good and evil.

Let it be further considered whether any inducement however lucrative would lead us to incur the solemn responsibility of attempting to introduce this insidious scourge of opium smoking into a new and untried field, for, if it would not, the same responsibility rests upon us for participating in an old established evil when time has developed its true character.

But indeed argument is needless. Every Christian who will take the trouble to examine into the matter will find that the opium trade to China cannot for one moment be defended on Christian principles, that by applying such a test it is at once disclosed to view in its true colors as a monster evil which is devastating the east, and which if he have the courage to confess his faith, he can no longer be conscientiously engaged in.

MAHOMEDANISM IN THE INDIAN ARCHIPELAGO.

To ascertain the influence of Mahomedanism on the lives and literature of the Malays and other islamised inhabitants of the Archipelago, we shall from time to time draw the attention of our readers to such of the principles, doctrines, habits, traditions and literature of Mahomedanism as appear to us to exercise or illustrate this influence. In this, as in other parts of our miscellaneous contributions and extracts, we shall aim at presenting the impressions made on different orders of minds by the facts observed in connection with the subject, sometimes with and sometimes without comments of our own. This apposition of views will excite more inter-

est, and be more likely to lead to true conclusions, than the mere explanation of our own opinions. Besides the subject is a complex one, and needs many minds to apprehend it in its various phases.

Why have Mahomedan, been more successful than Christian Missionaries, in the Indian Archipelago ?

Many circumstances contributed to frustrate the effects of this zeal. The instructors were ignorant of the language, the habits, and manners of the natives,—the manners of Europe were at direct variance with those of the east,—the Europeans, by their intemperance, and, above all, by their avarice and rapacity, brought their religion into odium,—and it happened unluckily that but a very little time before the commencement of their intercourse, the people of the Archipelago had received a new religion, more popular, because introduced with more skill, and under circumstances more agreeable to the genius of their character, their state of society, and their temporal prosperity. Had not, however, the violence, injustice, and rapacity of the first Europeans estranged the natives from their worship, they were still in time enough, for scarcely was the Mahomedan religion any where fully established. The greater number of the people of the Moluccas and neighbouring isles were Pagans, so were many of the Javanese, and even many of the inhabitants of Malacca were so.

The success of the *Mahomedan* missionaries, contrasted with the failure of the *Christian*, it is not difficult to trace to the true cause. The Arabs and the other Mahomedan missionaries conciliated the natives of the country,—acquired their language,—followed their manners,—intermarried with them,—and, melting into the mass of the people, did not, on the one hand, give rise to a privileged race, nor on the other, to a degraded cast. Their superiority of intelligence and civilization was employed only for the instruction and conversion of a people, the current of whose religious opinions was ready to be directed into any channel into which it was skilfully diverted. They were merchants as well as the Europeans but never dreamt of having recourse to the iniquitous measure of plundering *the people* of the produce of their soil and industry. This was the cause which led to the success of the Mahomedans, and it was naturally the very opposite course which led to the defeat of the Christians. The Euro-

peans in the Indian Archipelago have been just what the Turks have been in Europe, and the consequences of the policy pursued by both may fairly be quoted as parallel cases.

CRAWFURD.

The Truth and Power that is in Mahomedanism.

But there is another thing to be said about the Mahomedan Heaven and Hell. This namely, that, however gross and material they may be, they are an emblem of an everlasting truth, not always so well remembered elsewhere. That gross sensual Paradise of his; that horrible flaming Hell; the great enormous Day of Judgment he perpetually insists on: what is all this but a rude shadow, in the rude Bedouin imagination, of that grand spiritual Fact, and Beginning of Facts, which it is ill for us too if we do not all know and feel: the Infinite Nature of Duty? That man's actions here are of *infinite* moment to him, and never die or end at all; that man, with his little life, reaches upwards high as Heaven, downwards low as Hell, and in his threescore years of Time holds an Eternity fearfully and wonderfully hidden: all this had burnt itself, as in flame-characters, into the wild Arab soul. As in flame and lightning, it stands written there; awful, unspeakable, ever present to him. With bursting earnestness, with a fierce savage sincerity, half-articulating, not able to articulate, he strives to speak it, bodies it forth in that Heaven and that Hell. Bodied forth in what way you will, it is the first of all truths. It is venerable under all embodiments. What is the chief end of man here below? Mahomet has answered this question, in a way that might put some of *us* to shame! He does not, like a Bentham, a Paley, take Right and Wrong, and calculate the profit and loss, ultimate pleasure of the one and of the other; and summing all up by addition and subtraction into a net result, ask you, Whether on the whole the Right does not preponderate considerably? No; it is not *better* to do the one than the other; the one is to the other as life is to death,—as Heaven is to Hell. The one must in nowise be done, the other in nowise left undone. You shall not measure them; they are incommensurable: the one is death eternal to a man, the other is life eternal. Benthamite Utility, virtue by Profit and Loss; reducing this God's-world to a dead brute Steam-engine, the infinite celestial Soul of Man to a kind of Hay-balance for

weighing hay and thistles on, pleasures and pains on:—If you ask me which gives, Mahomet or they, the beggarlier and falser view of Man and his Destinies in this Universe, I will answer, It is not Mahomet!—

On the whole, we will repeat that this Religion of Mahomet's is a kind of Christianity; has a genuine element of what is spiritually highest looking through it, not to be hidden by all its imperfections. The Scandinavian God *Wish*, the god of all rude men,—this has been enlarged into a Heaven by Mahomet; but a Heaven symbolical of sacred Duty, and to be earned by faith and welldoing, by valient action, and a divine patience which is still more valiant. It is Scandinavian Paganism, and a truly celestial element superadded to that. Call it not false; look not at the falsehood of it, look at the truth of it. For these twelve centuries, it has been the religion and life-guidance of the fifth part of the whole kindred of Mankind. Above all things, it has been a religion heartily *believed*. These Arabs believe their religion, and try to live by it! No Christians, since the early ages, or only perhaps the English Puritans in modern times, have ever stood by their Faith as the Moslem do by theirs,—believing it wholly, fronting Time with it, and Eternity with it. This night the watchman on the streets Cairo when he cries, “Who goes?” will hear from the passenger along with his answer, “There is no God but God.” *Allah akbar*, *Islan*, sounds through the souls, and whole daily existence, of these dusky millions. Zealous missionaries preach it abroad among Malays, black Papuans, brutal Idolators;—displacing what is worse, nothing that is better or good.

THOMAS CARLYLE

MALAY AMOKS REFERRED TO MAHOMEDANISM.

*Sentence of death upon a Malay convicted of running amok.**

Sunan, you stand convicted on the clearest evidence of the wilful murder of Pakir Sah on Wednesday last and it appears

* On the 8th July 1846, Sunan, a respectable Malay house builder in Pinang, ran amok in Chulish Street and Pinang road, and before he was arrested killed an old Hindu woman, a Kling, a Chinese boy, and a Kling girl about 8 years old in the arms of its father, and wounded two Hindus, three

that on the same occasion you stabbed not less than 10 other unfortunate persons, only 2 of whom are at present surviving. It now becomes my duty to pass upon you the last sentence of the law. I can scarcely call it a painful duty, for the blood of your innocent victims cries aloud for vengeance and both justice and humanity would be shocked were you permitted to escape the infamy of a public execution. God Almighty alone, the great "searcher of hearts," can tell precisely what passed in that wretched heart of your's before and at the time when you committed these atrocious deeds; nor is it necessary for the ends of justice that we should perfectly comprehend the morbid views and turbulent passions by which you must have been actuated. It is enough for us to know that you, like all other murderers, "had not the fear of God before your eyes," and that you acted "of malice aforethought and by the instigation of the devil" himself, who was "a murderer from the beginning." But all the atrocities you have committed are of a peculiar character and such as are never perpetrated by Christians, Hindoos, Chinese, or any other class than Mahomedans, especially Malays, among whom they are frightfully common, and may therefore be justly braoded by way of infamous distinction, as *Mahomedan Murders*: I think it right, therefore, seeing so great a con-course of Mahomedans in and about the Court, to take this opportunity of endeavouring to disabuse their minds and your own of any false notions of courage, heroism, or self devotion which Mahomedans possibly, but Mahomedans alone of all mankind, can ever attach to such base, cowardly and brutal murders; notions which none but the devil himself, "the father of lies," could ever have inspired. But if such false, execrable and dangerous delusions really are entertained by any man or body of men whatever, it may be as well to show from the gloomy workings of your mind, so far as circumstances have revealed them, that not a particle of maoly cour-Klings, and two Chioese, of whom only two survived. On his trial it appeared that he was greatly afflicted by the recent loss of his wife and child, which preyed upon his mind and quite altered his appearance. A person with whom he had lived up to the 15th of June said further "He used to bring his child to his work, since its death he has worked for me; he often said he could not work as he was afflicted by the loss of his child. I think he was out of his mind, he did not smoke or drink, I think he was mad." On the morning of the amok this person met him, and asked him to work at his boat. "He replied that he could not, he was very much afflicted." "He had his hands concealed under his cloth, he frequently exclaimed, Allah! Allah!" "He daily complained of the loss of his wife and child." On the trial Suaso declared he did not know what he was about, and persisted in this at the place of execution, adding "As the gentlemen say I have committed so many murders I suppose it must be so." The amok took place on the 8th, the trial on the 13th, and the execution on the 15th July,—all within eight days.

age or heroism could have animated you, or can ever animate any man who lifts his cowardly hand against helpless women and children. You had lately, it seems, been greatly afflicted by the sudden deaths of your wife and only child, and God forbid that I should needlessly harrow up your feelings by reverting to the subject. I do so merely because it serves in some degree to explain the dreadful tragedy for which you are now about to answer with your life. Unable or unwilling to submit with patience to the affliction with which it had pleased God to visit you, you abandoned yourself to discontent and despair, until shortly before the bloody transaction, when you went to the mosque *to pray*!—to pray to whom or to what? Not to senseless Idols of wood or stone which Christians and Mahomedans equally abominate—but to the one omniscient, almighty, and all merciful God in whom alone Christians and Mahomedans profess to believe! But in what spirit did you pray, if you prayed at all? Did you pray for resignation or ability to “humble yourself under the mighty hand of God”? Impossible. You may have gone to curse in your heart and gnash with your teeth, but certainly not to pray, whatever unmeaning sentences of the Koran may have issued from your lips. Doubtless you entered the Mosque with a heart full of haughty pride, anger and rebellion against your maker, and no wonder that you sallied forth again overflowing with hatred and malice against your innocent fellow-creatures; no wonder that, when thus abandoned to the devil, you stabbed with equal cruelty, cowardice and ferocity unarmed and helpless men, women and children, who had never injured, never known, probably never seen you before.

Such are the murders which Mahomedans alone have been found capable of committing. Not that I mean to brand Mahomedans in general as worse than all other men, far from it; I believe there are many good men among them,—as good as men can be who are ignorant of the only true religion. I merely state the fact that such atrocities disgrace no other creed, let the Mahomedans account for the fact as they may. But whatever may be the true explanation; whether these fiendish excesses are the result of fanaticism, superstition, overweening pride or ungovernable rage, or, which is probable, of all combined, public justice demands that the perpetrators should be visited with the severest and most disgraceful punishment which the law can inflict.

The sentence of the Court therefore is, that you, Sunan, be remanded to the place from whence you came, and that on the morning of Wednesday next you be drawn from thence on a hurdle to the place of execution, and there hanged by

the neck until you are dead. Your body will then be handed over to the surgeons for dissection, and your mangled limbs, instead of being restored to your friends for decent interment, will be cast into the sea, thrown into a ditch, or scattered on the earth at the discretion of the Sheriff. And may God Almighty have mercy on your miserable soul!

SIR WILLIAM NORRIS,

MALAY AMOKS AND PYRACIES.

What can we do to abolish them?

The picture which we have above presented suggests many reflections pointing different ways, some exceedingly painful which we suppress. Is it well that justice should so closely imitate revenge as almost to kill the criminal red hand? Is it well that justice should proceed to the execution of its office while the blood of the victim is hardly yet dry, and its cry too powerful to permit of a calm and deliberate exercise of the judgment? Had the trial not followed so rapidly on the crime, is it possible that a different view might have been taken of the condition of mind under which the criminal acted? But passing by these, and some still graver thoughts, let us ask if a government which merely kills a Malay who runs *amok** does its duty? Is this killing which it does perform of any benefit to society?—and is there nothing which it fails to perform that might tend to put an end to these dreadful tragedies? These amoks result from an idiosyncrasy or peculiar temperament common amongst Malays, a temperament which all who have had much intercourse with them must have observed, although they cannot account for or thoroughly understand. It consists in a proneness to chronic disease of feeling, resulting from a want of moral elasticity, which leaves the mind a prey to the pain of grief, until it is filled with a malignant gloom and despair, and the whole horizon of existence is overcast with blackness. If the reader thinks we have sketched the progress of a monomania, we answer that the great majority of *pengamoks* are monomaniacs. Whatever name we give the mental condition in which they are, and whatever our views of their responsibility for their acts,

* *Amok*, a muck; *mengamok* to run a muck; *pengamok*, the person who runs a muck.

it is clear that such a condition of mind is inconsistent with a regard for consequences. The pleasures of life have no attractions, and its pains no dread, for a man reduced to the gloomy despair and inward rage of the *pengamo**. A government cannot medicine a mind diseased, but it can confine the evil to the sufferer himself. The Malay, compelled from boyhood to trust to his kris for the protection of his person and his honour, considers it as a part of his existence. A state of society which requires every individual to be ready at any time to use his kris is quite inconsistent with a horror of shedding blood. Now so weak are we in police in our own settlements and so impotent beyond them that it is not safe for a Malay to travel by land or sea without being armed. The first step, therefore, towards the prevention of amoks is the suppression, as far as is practicable, of robbery on land and piracy at sea, to be followed by the abolition of the habit of private persons wearing weapons. While a Malay of Singapore cannot set out on a voyage to the back of the island, to Johore or to Siak, without risk of being robbed and killed, he cannot go unarmed; and until he ceases to carry arms, and learns to trust for protection and vengeance to the government under which he lives, there can be no security that, if subjected to misfortune, insult or oppression, he will not run a muck.

The cost of the produce supplied by the Malays is so greatly enhanced by the necessity of protecting themselves on their voyages, that the employment of additional force by government for the suppression of piracy, and the adopting of measures in concert with the native authorities, would soon shew a direct action on trade. Piracy raises the cost of all native produce brought to Singapore; it gives the bold a monopoly of carriage; and obliges them to go in larger numbers and with a more expensive equipment than would otherwise be necessary.

Experience has shewn that the Malay chiefs of the Peninsula are quite willing to co-operate in the abolition of piracy, but they require to be constantly pushed, directed and encouraged.* It is only by engaging all the powers in the western part of the Archipelago to act in concert, that effectual measures can be taken. The pirates must be tracked by a combination of information and action, until they find they

* The good that has been accomplished in the vicinity of Singapore by Colonel Butterworth's using his official influence with the *Tamungong* for the suppression of piracy, shews how much may be done when it is tried. When there is a will there is a way. How much more could the Governor of the Straits effect, with very little additional outlay, if he acted in pursuance of a system organised and carried out by the English Government, and in co-operation with the other means adopted by it.

can no longer carry with them the privacy which at present renders their visits more unexpected than a thunder storm, and which prevents the chain of their operations from being detected.

There would be no difficulty in finding a naval Sleeman. What is wanted is that government be made practically conversant with the nature and operation of the evil, and with the necessity for a combination of *all* the governments exercising power in the Archipelago, to suppress this enormous crime. When they have made up their minds to this, there will be no difficulty in finding agents to procure the combination, and organize and direct its power.

It may be said that the position of Great Britain in the Archipelago is not such as to require or even admit of her taking a part in any work of such wide extent. We assert that her position is such as to place her under the most positive and solemn obligation to undertake this work, to enable her to give the most effectual co-operation in it, and to render that co-operation indispensable. The police of every sea belongs to those nations whose vessels traverse it, and who from their proximity to it have the power of organising a police. We may lay down the proposition still more broadly by saying that every nation whose vessels use a sea are charged to aid in its police in proportion to their means, and the advantages they derive from its use. The obligation to exertion increases with the means, and the means increase with proximity to the sea. It increases also with the advantages enjoyed, although this increase may be counterbalanced by the increase of difficulties arising from distance of position. Now England derives more benefit from the use of the seas of the Archipelago than any other nation, the proximity of her territories to the field of action is as great as those of Holland and Spain, her means of action far superior to those of the latter, and, in some respects, even to those of the former. Her obligations therefore to destroy the marauders who infest these seas are paramount. Is she justified in waiting till she is satisfied that other powers have performed their duty? On the contrary, that superiority in intelligence, liberality, energy and power which Providence has conferred upon her, demand that in this work she shall take the lead, not intermitting her strongest endeavors to excite her neighbours to do their duty, but going about her own in an earnest and determined manner, whether they prove zealous, lukewarm or hostile.

But England has certain peculiar advantages for the work. The Malay Peninsula is entirely under her control. She has

bound over the Dutch not to meddle with it. Now the Peninsular side of the Straits of Malacca is the only navigable one, so that this exclusion has also given her the control of the Straits. There is not a Malay chief on either side of the long coast of the Peninsula who would not comply with every reasonable request of the English Government, and much more; and there is not one of these chiefs who does not at present, directly or indirectly, contribute to the maintenance of the slave trade and piracy. By cutting off this source of support one considerable blow would be struck. Our position on the north of Borneo enables us to take still more decisive measures, in cutting off from the Borneon and Sulu pirates the support and countenance of the Sulu chiefs.

The chiefs and communities which are themselves piratical must be compelled to be so no more, that is to say they must be visited pacifically, the determination of England communicated and its reasons explained to them, her friendship and countenance offered, an obligation taken to abandon piracy,—and that obligation must thenceforth be enforced, at whatever cost and with whatever severity may be necessary. Subsequent carelessness and lenity would be cruelty to the piratical communities themselves. Piracy is doubtless less reprehensible morally in those who have never been taught to look upon it as a crime, but that is no reason why every severity *necessary* for its extirpation should not be resorted to. A tiger is even less reprehensible in this point of view than a professional pirate “to the manner born”. But we must do what is necessary to prevent injury to others from piratical habits, before we can indulge in compassion for the pirate. Our sympathy must be first with the victims and the endangered; with the murdered before the murderer, the slave before the slave dealer.

The course we have pointed out would not only be attended with a reduction in the present enormous cost of boat-carriage to which almost all produce is subjected, but the impetus given to industry and traffic by this opening and clearing of maritime roads would lead to greater abundance in supplies, to greater competition in the boat-carriage, and to a very considerable lowering in the price of produce, which would soon repay England for the cost of her maritime police.

But there is a part of the nation who consider themselves under a sacred obligation to ameliorate the moral condition of the natives whom commerce makes our neighbours. Now, the importance of a maritime police in improving the habits,

and through them the character, of the Malays, is far greater than might be supposed. The agricultural Malay is generally peaceful and comparatively humane. It is maritime commerce with its lust of gain, its temptations and its dangers that develops the worst features of the Malayan character. The number of piracies committed by trading boats proves that a considerable portion of the nautical Malays are ready to rob whenever a favorable opportunity offers. If a boat, armed as they always are, meet a strange boat with a much smaller crew, in the solitude of the sea or in some lonely creek, robbery with this class of men is almost inevitable—and murder necessarily attends it for success or for concealment. Only a small proportion of these piracies come to the knowledge of the British authorities. We live aloof from the natives, and in this, as in so many other things, we do not know what is going on around us. We are amongst them, not of them. Every nautical Malay is in constant familiarity with the idea of robbing and killing or of being robbed and killed. Render the seas safe, and the idea of blood, with the consequent low value in which human life is held, will gradually give place to a growing sense of its sacredness. The kris will gradually disappear, revenge will accept the retribution of the law,* and *amoks* will become far more rare.

* But at present does government perform its office even here? Does the law afford retribution? In 100 murders committed in Singapore how many of the perpetrators are apprehended? Of those apprehended and brought to trial, how many are convicted? Let us never overlook the fact that all improvement of the Malay character must begin with government giving them justice. Let the government for the diminution of its cares and its expenditure, the merchant for the improvement of commerce and the increase of his gains, the philanthropist for the physical and moral bettering of the Malay, and the religionist if he desires to make one convert, lay, for a while, all other things aside, visit the Police Office, mark well what our system is and how it is worked, and then consider whether, with such an adaptation of means to ends, any practical business in life could ever be accomplished. We can all find means for every rational undertaking of our own. But justice is of too little consequence to demand the serious consideration and earnest and intelligent action, which are the conditions, of success in all other human business.

We need hardly add here that in this Journal principles, systems and methods only are dealt with.

We have received the following note from Dr Little :

"I will postpone my reply to the observations on my paper of your Correspondent contained in your last issue, until the publication of his tables which you acknowledge receipt of, and which I trust will soon appear in public."

THE
JOURNAL
OF THE
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

A TRANSLATION OF THE KEDDAH ANNALS.*

By Lieut.-Col. JAMES LOW, C. M. R. A. S. & M. A. S. B.

CHAPTER XII.

Rájá Prá Ong Máhá Potisat and the four mantris returned to Kwalla Muda fort, where the Rájá continued to govern with justice and liberality.

Now the queen was very sorry to see his highness continue childless, and on this account she performed penances and made vows, offerings, and invocations to her ancient ancestors, and the Rájás of old for their aid, and to the effect that the Rájá might be granted a child. Some time after this the Rájá's queen gave birth to a male child, resembling his grandfather *Marong Maha Phodisat*. It was of a beautiful countenance and was nurtured and attended in the manner already described for young princes. The Rájá named the child *Phraong Mahawangsa*, which delighted the mantri and people; being a name of a Rájá of old.

The bulu bittong or joint of bambu which had been placed near the couch of the Rájá gradually expanded, and at the proper time it burst, and displayed a beautiful male child, to the wonder of all beholders. The Rájá took the child and provided for it in the palace as if it had been the son of a Rájá, and he named him Rájá Bulu Bittong. This boy

* Concluded from page 336.

was brought up along with the Rájá's son, and a warm friendship began betwixt them.

The Rájá in time grew tired of the fort of Rájá Bersiyong, *because* he had got a son. [¹] The four mantris therefore urged him to make an excursion to the sea shore and amuse himself. So his highness set off soon after, and descending by the new cut called Kwalla Muda he followed the sea coast to *Tanjong Putri*. This place did not please him for a new residence, so he passed straight up to Bukit Mariam, on which hill he set about erecting a fort and a palace. This hill was near the prison which Rájá Bersiyong built on a hill there, hence called Bukit Pinjara. Rájá Bersiyong had a fort too on that hill. There is a pretty stream at Bukit Pinjara, called Sungei Diddap. At this river the same Rájá had also built a mud fort, to protect the river and settlement from any enemies who might enter from the sea in dark nights.

One day a large and strange object was observed by Rájá Bersiyong's queen floating down the river. On approaching in the water towards it the queen found it to be a huge foam bell [²] which bursting disclosed a beautiful female child, who was conveyed by the queen to her palace and there carefully tendered and brought up under the name of Putri Saloang. The child resembled the children of Indra, or of the Genii, or the Dewattas. She was treated by the queen mother, as if she had been her own child, and the Rájá also had a great affection for her.

The Rájá meanwhile continued inspecting the building of his new fort and palace, passing down the river from time to time for the purpose. He also directed houses to be built for the mantris, the officers of government and the people, and that these should be arranged in streets the whole way to the sea beach, so that fish became cheap and abundant. The country of Keddá was very populous when this Rájá began to rule, and numerous foreigners, merchants and settlers of various countries came there to stay or to transact business. His highness's fame for courtesy, liberality and justice were the cause of this influx; and there were now no complainings of tyranny and oppression. Provisions and other things were also cheap. The inhabitants likewise of distant creeks, bays and coasts of Keddá flocked to the new station or capital.

¹ A strange reason, but these Rájás were always changing their residence on one pretence or other.

² Like the foam bell of Palembang which disclosed the "Putri Tanjong Bui" Princess foam bell—(Malayan Annals)

In course of time the young prince Rájá Prá Ong Máháwángsá grew up to man's estate, and it behoved the Rájá his father to select a wife for him. He was very accomplished, of courteous and insinuating address, condescending, affable and humane. He was instructed in manly exercises, and used to run tilts on horseback; he and Rájá Bulu Bittong encountered thus each other in sport, being both armed with the lance and spear. They ran races on horseback also along the sands on the sea shore north of Kwalla Muda. Both of the youths were soon married, the young Praong Máháwángsá to the daughter of a Rájá (no name) and the other to Putri Salo-ang. The prince staid with the Rájá in his new fort, and Bulu Bittong had the old fort of Rájá Bersiyong given to him by the Rájá for his residence. Thus all was happily settled, and the people flourished.

In the mean while Rájá Praong Maha Potisat directed a party of men to go and select convenient spots towards the east and the N. N. W., as he wished to build a fort and palace for his son Praong Máháwángsá, and for Rájá Bulu Bittong—but distant or apart from the river Kwalla Muda, for said he, I am getting old and infirm, and cannot perform what I have a mind to do while my four mantris (ministers) have become weak from age like their master. But before the Rájá's order could be carried into effect the queen died, and was *laid* with all the solemnities due to deceased royalty, at the upper part of the river of *Pulo Tign*—where a mau-soleum with ornamental pillars, or *kächäpuri*, was erected over the remains.

All was then grief and lamentation in the palace. Not long after this event the four mantries one after the other sickened and died, which oppressed the Rájá and his son with fresh grief. The obsequies of the four mantries having been performed by the Rájá and his son in the manner befitting their rank, the Rájá raised their sons respectively to the rank of their deceased parents.

When the Rájá's grief for these losses had somewhat subsided, he abdicated in favour of his son *Praong Máháwángsá*; and directed Rájá Bulu Bittong to look out for a place where he might erect a fort, and reside for the future. This chief left accordingly with a regular establishment of officers and men. Soon after his departure Rájá Praong Maha Potisat sickened and died—and was *laid* by the prince and officers of state with all due solemnity and magnificence. So Praong Máháwángsá assumed the reins of government.

Now Rájá Praong Máháwángsá was much addicted to the

drinking of fiery spirits, and spirits distilled or prepared from rice, in order to cure a disease to which he was subject. He had therefore a goodly number of jars of these liquors arranged in his palace. It was his custom after rising from his bed in the morning, and before he had washed his face, or eaten the betel mixture, to call for a *glass* full of spirits. This custom he had followed for years—but beyond this he never *privately* indulged himself in drinking, but *only* drank when at meals *with his ministers and state officers*, nor was he ever intoxicated. [17]

NOTES.

[17] The rites employed by the queen were of a Pagan or Hindoo origin, and there are lingerings still of such amongst the mass of the Malays.

Tanjong Putri is a rocky point at the entrance of what was formerly the Kedda (or Muda) river but is now called the river Marbau. It is so called from the fancied resemblance one of the most prominent rocks has to a female—putri meaning a princess.

Bukit Mariam is still known by the same name, as is the hill Pinjara. The jungle is in this quarter so thick that I have only been able to trace a few indications of the sites here as described by our author, but these are enough to convince me of his good faith.

The old Raja had perhaps not been more than ten or twelve years at Bukit Mariam before his son was married, and as he was getting old he may have reached about seventy.

The annalist tries to palliate the frequent application of the next successor Phraong Mahawangsa to the spirit *jars*, by telling us that it was to cure some complaint he was subject to. But in those times all the people to the eastward used ardent spirits, and they were probably indebted to the colonists from India for the beverage; where the tenets of Islam are rigidly enforced spirits are not openly and perhaps infrequently drunk. But in those places where a greater laxity prevails, as I believe to be the case in Java, the arak api or fire spirit is used without much reserve. Javanese sailors employed in English vessels prefer gin and brandy and take it neat, grog not being patronized by them.

The Indo-chinese people who had received the Bali language amongst them were furnished with the names of five different kinds of ardent spirits. The inhabitants of the Malayan countries got these from the Klings. I extract these five from the *Bali* or *Bali* work in my possession called *Mihnda Raja*; that is, it is in the Pali character of Laos and Siam.

- 1 Peetha Sura
- 2 Powa Suraka
- 3 Othana Sura
- 4 Paninna Sura
- 5 Sampha rāsaug yuttā.

From the Asiatic researches v. 8 p. 50 it seems that Sura in Sanscrit means *wine* and true wealth. So the Devatas having got it while the Daityas or Titans did not obtain it, these last were called Asura.

I have not space here to describe the mode of preparing all of these. So I will only notice the first. It is made with common rice or the *oryza glutinosa* (of Marsden) or of other grain. The grain is boiled, and when cold a fermenting mixture composed of black pepper, onions, and garlic, nutmeg and cloves, orange tree leaves, ginger, and the *alpinia galunga* with cinnamon and chilli also the liquorice root, pounded together, is added. The whole is then distilled with water.

The Javanese chiefs appear to have been the most addicted to the use of spirits, a custom they most probably owed to the Indians who under the titles of Buddhists and worshippers of the Gods of the Hindoo Pantheon, so long held spiritual not political sway over Java.

Being Mahometans, the Malays have substituted opium for spirits, ostensibly. Thus Mahomet's injunctions are obeyed, but an equally deteriorating and dehumanizing poison is used in its stead. That lawgiver should have denounced all intemperance and would have acted more wisely. But he had his eye chiefly on his countrymen and stigmatized the vice which he and they were least inclined to as leading to hell, while he gave an unlimited latitude to the sensual indulgences to which they were prone.

CHAPTER XIII.

It is related that five years after the death of the prophet Mahommed, there were holy men and proselytes to his faith in Bagdad. Sheikh Noor Aladin came from Mecca and Medina at this time to the country of *Jawi*, otherwise *Acheh*, bringing with him the holy books, containing the tenets of Islam. There was also a person residing in Bagdad, named "Sheik Abdullá" *the elder of Bagdad*. He was a holy, venerable and wonderful man, and his prayers were very efficacious, so that he was revered in that country, and had a multitude of followers and disciples, who were instructed by him, although he was far advanced in life which he had spent in the faith.

The most sacred book was the Koran. In it are chapters and passages at which devils and evil spirits tremble, and it embodies *hundreds of sacred volumes, the works of the prophets and sages of old, all of which it thus superseded*. The koran rendered superfluous all the occult sciences of the ancients, such as magic and superhuman powers, by means of which men used to fly through the air, and to traverse the earth or the ocean without being visible, if they pre-

ferred it, or of assuming any shape they pleased, if desirous of not being visible. Nevertheless, at the present day, the *true believer and servant of God may by him be endowed with preternatural faculties and powers.*

God also by his decree rendered unavailing the belief entertained by many nations in the efficacy and power of idols, whether these were dumb, or manifested their power like oracles by speech, or whether constructed and fashioned of perishable materials or not, also the adoration of the sun, and the worship of trees, birds and fourfooted animals, and God ordered all these obnoxious things to be carried by his angels to the sea called kulzoom, which is not accessible to mortals, that they should not be any longer adored as omnipotent, and in order that Islamism should be firmly established, a faith promulgated by the prophet Mahomed, and comprised in his written ordinances.

There was a holy Sheikh of Yemen named Sheikh Abdullá, who went from Mecca to Bagdad and became the spiritual guide of Sheikh Abdullá the younger of that city. He instructed his disciple in the fakahat or contents of the book of knowledge, and also in the Sufi-doctrines. He likewise explained to him the various commentaries, tufsir, or the koran. He (the younger Abdullá) was so well versed in the koran that he could repeat without once looking at it, the whole of its thirty chapters. This holy man Sheikh Abdullá the younger once found in the tufsir an account of Iblis, the chief of the devils, who walked about the earth, disturbing its inhabitants with his evil instigations, destroying the fruits of a virtuous and holy life, and frustrating the best intentions of the good and wise. He led men by a smooth path into error and vice, and made them believe vice to be virtue and virtue to be vice ["the worse appear the better reason"]. But no man can see, as it is written in the tufsir, the devil, nor can he endure the koran. Still he will (occasionally) molest and destroy even those who read or adopt the koran. One day Sheikh Abdullá the younger got permission from his guru Sheikh Abdullá the elder to have an interview with this chief of the devils. The guru laughed and said you cannot meet the devil; if you do, all your past virtuous and holy life will be as nothing, and he will lead you into the path of error. But the Sheikh of Yemani persevered in his desire, so the guru gave his permission. He then proceeded into the plain, and sat down as directed by the guru below a large tree. According also to his guru's instruction he had brought all

his clothes with him. He here hoped to meet Iblis, and learn from him all his stratagems and wiles practised towards mankind. Before setting out he took his meal and dressed himself in his turbau with the corner falling down, and a suba coat of three folds, and a kittang or vest with four folds, and a sash, and he performed his ablutions with holy water. When the disciple had set forth, then his guru took holy water and offered up a prayer to God that the devil might encounter his disciple. The disciple being thus seated during the still of the day below the tree, he began to read the koran softly, when all of a sudden he heard a noise as if some one was approaching, and before he could collect himself he received a very smart slap on his right cheek, from an invisible hand, and on turning round to that side, he got a still smarter slap on his left cheek, although all this while he had not ceased reading the koran. So growing afraid he ran home, and reported the matter to the guru. The latter told him that of course he could not expect to see Iblis if he kept reading the koran, since this chief of the devils hated to hear it read. Sheikh Abdullá the younger went the next day in the same way, and sat below the tree; but did not read the koran. It was not long before he observed a venerable Sheikh approaching him, who was dressed in green, whose beard descended below his breast, and who held a staff in his hand. His appearance was quite astonishing, for his stature was prodigious. On reaching the pupil he made a salam, saying—salam aleikum oh Sheikh Abdullá. The latter quickly returned the salutation, asking who the other was, and his business. Why, said the chief of the devils, did not you wish to see me? So you are indeed the chief of the shaitans? Yes, I am their chief, and now what would you desire of me? Why, replied Sheikh Abdullá, I have been exceedingly anxious to meet with you as I desire to have you for a guru, or teacher. Iblis replied, how can I become your spiritual guide, since all my actions and thoughts are the reverse of yours. How can I bear your chidings or admonitions. The disciple should put implicit confidence in his teacher. All my disciples must be like myself. Sheikh Abdullá rejoined—My lord pray instruct me, for I will obey you, and follow what you say, else how can you be my guru. Iblis consented, and putting his staff into Sheikh Abdullá's hands, bade him follow his new guru. This staff rendered its holder, when he pleased, invisible.

It would be wandering from the subject of the Kedda

history to follow these two travellers. Suffice it to say that Iblis led his pupil over various regions, displaying by numerous feats and contrivances his power over their inhabitants. [a]

At length the travellers reached the *kafir* country called Kedda. Here they entered the palace of *Prá Ong Máhá-wángsá*; and before he was wide awake stood beside his bed curtains. Presently the Rájá awoke and called for his usual glass of spirits. The page went to fill it from one of the jars, when the wretch Iblis stepping up defiled the beverage, he being invisible. The Rájá drank it off, when Sheikh Abdullá losing his temper said to Iblis, God bless me! [istaghafar illá], why did you defile the Rájá's draught? Iblis replied—Did I not caution and direct you not to question or find fault with what I might do towards any of your race? True, said the other, and I should not have found fault with you elsewhere, but here you have had the hardihood to behave thus towards a great prince, who is about to be one of God's vicegerents. The Raja was astonished to hear people squabbling so close to him, without his being able to see them. But just at this moment Iblis got angry with his pupil and said to him, since you have become so clever, it is time that we should part. Hereupon he suddenly snatched his staff out of Abdulla's hand and thus left him visible to the Raja, he himself departing. The Raja took Sheikh Abdulla by the hand, and inquired to whom he had been just speaking, and perceiving his dress which was foreign, asked where he had come from, and how he had got into his sleeping apartment, since the attendants were still asleep. So he received the information he demanded, and Sheikh Abdulla related all his adventures in company with the devil. Bagdad rejoined the Raja, by the accounts of *navigators passing to and fro, betwixt it and Kedda*, is from three to four months sailing distant.

What is now the religion of this country, said the Sheikh addressing the Raja? My religion, replied Raja Marong Mawangsa, and that of all my subjects is that which has been handed down to us by the people of old; the old men of former days. *We all worship idols*. Has your highness then never heard of Islamism, and the koran which descended from God to Mahomed, whose tomb is at

[a] A separate translation may be given hereafter of these travels. If the countries could be identified it might be useful in shewing where idolatry still prevailed.

Medina, which has superseded all others, leaving them in the possession of the devil. The devil could not act as he does if the koran was generally known. I pray you then if this be true, said the Raja, to instruct and enlighten us in this new faith.

Sheikh Abdullá in a transport of holy fervor at this request of the Rájá, hugged, embraced, and kissed the body of his highness. He then instructed the Rájá in the *shahadat* [1] or creed *عبد الله وحده لا شريك له واشهد ان محمدا عبده ورسوله*.

His highness then sent for all his jars of spirits, and with his own hands emptied them on the ground. After this he had all the idols of the *palace* brought out. They were heaped up in his presence and that of Sheikh Abdullá. There were idols of gold, and of silver, of pottery, of wood, of earth, and these were (all) *in human shape* and had *human features*. All these were broken, and cut to pieces by Sheikh Abdullá with his sword, and with an axe, and the fragments and dust were scattered about. After this he burnt the whole in the fire.

The Sheikh asked the Rájá to assemble all his women of the fort and palace. When they all had arrived in presence of the Rájá and the Sheikh, they were all initiated in the agama of Islam.

After all these deeds, the Sheikh took refreshment, observing that he had fasted for seven days and nights, while travelling with Iblis, as his mind had been absorbed with what he saw.

After dinner the Rájá drank coffee and tea, (*kawa* and *te*) along with the Sheikh, who expatiated on the feats which he had seen Iblis perform. The Sheikh was mild and courteous in his demeanour, persuasive and soft in his language, so that he gained the hearts of the inmates of the palace.

The Rájá soon after sent for the four mantries, who on reaching the hall were surprised at seeing a Sheikh seated near the Rájá. The Rájá told the mantris the mode of the Sheikh's arrival and his object. The four chiefs expressed their readiness to follow the example of his highness, saying, we hope Sheikh Abdullá will also instruct us. The latter on hearing this speech embraced, hugged and kissed the four mantris. He then said, to prove their sincerity, he hoped

[1] I am conscious or sure that there is no God but God. He is one, there are not two, and I also believe that Mahomet is the servant of God, and also the prophet of God.

they would send for all the people to come to the audience hall bringing with them all the idols which they were wont to worship, and the idols which had been handed down by the old men of former days. The request was obeyed and all the idols kept and possessed by the people were at that very time brought down and there destroyed and burned to the dust; no one was sorry at this demolition of their false gods, all were glad to enter the pale of Islamism.

Sheikh Abdullá after this said to the four mantris, what is the name of your prince. They replied his name is Pra Ong Máhawangsa. Well, said the former, let us change it for one in the language of Islam, and Malayoo. After some consultation the name of the Rájá was changed at his request, and by Sheikh Abdulló, to *ultan Mulzätulshah* or Mazülfülshah, because, said the Sheikh, it is a celebrated name; and is found in the koran. It is a name that is greater than every other in this world.

The Rájá now built mosques wherever the population was considerable, and directed that to each there should be attached forty-four of the inhabitants alone, as a settled congregation, for a less number would have been too few for the duties of religion. So mosques were erected and great drums were attached to them to be beaten to call the people to prayer on Fridays, but infidels were expelled from the mosques.

Sheikh Abdullá continued for some to instruct the people in the religion of Islam, people flocking to him from all the coast and bays, and districts of Kedda and its vicinity. In fact he initiated them in all its forms and ceremonies.

The news of this conversion of the Kedda people by Sheikh Abdullá reached Acheh; and the Sultan of that country, and Sheik Noor Aladin sent the following to Kedda:—

First the Siratulmustugim صراطا المستقيم

Secondly the Malim Hetam معاليم هيتم

or Babul Nikah بابول نيکه.

The Sultan and Sheikh Noor Aladin's letter and two books arrived at Kedda and the following was the substance of it. "This letter is from the Sultan of Acheh and Noor Aladin to our brother the Sultan of Kedda, and Sheikh Abdulla of Yemen, now in Kedda. We have sent two religious books, in order that the faith of Islam may be firmly established and the people be fully instructed in their duties, and in the rites of the faith." A letter in reply was sent by the Raja, and Sheikh

Abdulla thanking the donors. So Sheikh Abdulla redoubled his labors—and erected additional small mosques in all the different villages for general convenience. He also directed the five prayers for each day, and he ordained that in the month of Ramzan a measure, of Bagdad, of rice should be given to the poor by each person for the purpose of purifying their bodies. He also directed that at the great festival where prayers are offered up, the name of the Sultan should be mentioned in them. [²]

All such rules and observances are for the purpose of keeping the faith in the minds of the multitude and for perpetuating the same till the day of judgment.

The sacrifice of animals, such as buffalos or goats, on the tenth day of the month Dalhaija, and agreeably to the mode practised at Mecca, is to be performed by every one.

The Raja and his wife were constantly with the Sheikh learning to read the koran. The royal pair searched also for some handsome girl, daughter of a mantri and of the lineage of the Rajas of the country, to be the Sheikh's wife. But no one could be found willing to give his daughter thus in marriage, because the holy man was about to return to Bagdad, and only waited until he had sufficiently instructed some person to supply his place.

Now at this period the Sultan had three sons. Raja Mazim Shah, Raja Mohamad Shah and Raja Soliman Shah. These names were borrowed from the koran by Sheikh Abdulla, and bestowed upon the princes; whom he exhorted to be patient and slow to anger in their intercourse with their *slaves* and the lower orders, and to regard with pity all the slaves of God, and the poor and needy.

CHAPTER XIV.

To proceed. It is mentioned in sayings [which have been handed down to us] that Raja Bulu Bittong, husband of Putri Saloang he who had received instructions from Raja Praong Maha Potisat to proceed to the N. N. West,* in quest of a spot to settle on and build a fort and palace, had departed accordingly. In his absence Putri Saloang fixed her affections upon the son of one of the four mantris, and the result of

[²] Here follow various directions for fasts, prayers and other observances as practised at Mecca, which, as comprising those now existing in western Mahomedan countries, are too well known to require repetition here, independently of encumbering an historical translated work with dissertations on divinity. I have retained only so much as may serve to illustrate the manners of the people of Kedda at the period, and the way in which they were converted. The list of fasts may be found in the Straits Almanacs.

their illicit intercourse was a son, whom she named Muggat Zeinal [¹] but with the knowledge of the Sultan Mazulul Shah. The latter took the child and had it brought up along with his own three sons and instructed like them in the tenets of Islam.

Raja Bulu Bittong set out as before narrated, with a large train. He passed by many eligible spots, but would not settle himself upon them. At length he met with the mantri who had been directed by Raja Bulu Bittong's father, long before, to search for a new residence. They were busy in erecting a fort at this place; which lies *far up* the large river, but below the [tributary] "stream-called *Padang Trap* [²] that is lower down the great river." [Kwalla Muda]. The Raja halted here with the intention to complete the erection of this fort. But an old chief amongst the numbers present, addressing the Raja, said, we have foolishly and in vain constructed this fort and formed this establishment, because it is at a most inconvenient distance from the mouth of the river. If this be the state of matters, replied the Raja, let the half of our number descend the river a little way. So his highness set off with a party down the great river, and reached a high spot of ground on the left bank [descending]. On the left of this spot there is a stream [which flows into the great river.] Here the Raja directed the very thick pallas jungle to be cut down. When this had been done, he built a mud fort, with fencings of pallas trunks, and of dangser. People of the present day call it Kota pallas.

While both of the forts just mentioned were in progress there came a report of the death of Raja Pra Ong Maha Potisat, the father of Bulu Bittong, and of the misconduct of Putri Saloang. Raja Bulu Bittong was so incensed at this latter piece of intelligence, that he never again returned to the fort of Kwalla Muda, but resided always at Kota Pallas.

But he had not been here very long when news arrived that Dattu Sunggi and his four brothers had left Patani at a place betwixt Patani and Chanak. Their caste was bad and wicked. The second brother was named Tuan Sinni Ipoh, the third Tuan Sinni Ratu, and the fourth Tuan Sinni Payu. These four brothers were certainly of a wicked race. They were shunned and their acts disapproved of by every body. They robbed and stole, killing people and plundering their property, they used opium, gambled, and fought cocks with

[¹] Muggat means the male descendant of a marriage or connection betwixt a female of the Raja's family or class, and a male subject.

[²] This direction is rather out, as Padang Trap lies nearer to the N. or rather it is about perhaps N.N.E.

artificial spurs. They had besides a host of worthless fellows along with them, to the number of three or four hundred. These unprincipled villains came by stealth and suddenly to the fort highest up the Muda river. Raja Bulu Bittong happened to be at the time at the lower fort. When he learned the near approach of these robbers he hurriedly armed himself on horseback so quickly that he had not time to put on the saddle, and he had not more than about a hundred men with him, who were armed. Without waiting for reinforcements or for the mantris, warriors, officers, and other men he set forth towards the upper fort, only leaving orders for these to speedily follow.

When he reached the fort there was much fighting going on, for there were many villages in its vicinity and hundreds of the villagers were assembled in the fort. Dattu Sungei had intended to storm the fort at once, but he could make no impression when he tried it, for he was met face to face at the gates, and obstinately opposed. In the midst of this tumult arrived Raja Bulu Bittong, whose men instantly drew their swords, prepared their other weapons, and then charged the enemy most vigorously, plunging into its ranks, so the battle raged. When Tuan Sinni Ipoh saw Raja Bulu Bittong advancing, mounted, he rushed upon him, and threw his spear, but the Raja swerved his body so that it missed him, and he then wheeled his horse, and brought Tuan Sinni to the ground by a stroke of his spear on the *helmet* of Sunni. But the latter drew his kris and springing up again fiercely attacked his foe. The Raja warding off his blow with his spear, and pierced Sinni through from breast to back with the spear, and so he fell and died. Then rose the war cry of Raja Bulu Bittong's men. When Tuan Sinni Ratu saw his brother fall, he grasped his sword and struck at the Raja, but missed, while the Raja's spear pierced the sword hand of Sunni Ratu who thus fell and rolled on the ground four yards away from the Raja, his right arm being broken. But he started up, and with his kris in his left hand he renewed the fight, but after three or four passes he could not inflict a wound. The Raja watching his opportunity, plunged his spear into the neck of his adversary and slew him. The remaining two brothers of those thus slain now attacked the Raja, one on each side. But the Raja warding off their blows, and with his spear he run Sinni Payu through, and killed him. Now there were only the Raja and Dattu Sungi who fought with spears. The battle raged, and the fight was close and deadly, the kris being the chief weapon, men died

in mortal embrace, and torrents of blood flowed. Bodies lay in heaps and heads rolled like weights separated from the broken steelyard, while scattered arms in heaps wounded the feet like ranjous [a]. Dattu Sungi on seeing the slaughter of his men receded a little, and on his turning the Raja hit him with his spear in the side without wounding him, although he fell down. Starting again to his feet he got beld of the spear the Raja had cast at him, and threw it at the latter, who was slightly wounded. His highness fastened tightly his spear head and aimed at Sungi, piercing his thigh through and through. But even in this plight he pushed his spear at the Raja, and wounded him again only slightly. The spear becoming bent, Sungi drew his long kris and attacked the Raja wounding him in the ear, and nearly upset him, and following up his advantage he inflicted a wound on the Raja's back. The Raja Bulu Bittong enraged at this rushed at Dattu Sungi with his spear and pierced him in the throat and also through the body, and rolled him on the ground. At this time Sela Putra arrived on horseback, and found the Raja dizzy, and covered with blood, and just about to fall. He lifted him up and carried him into the fort. He then returned to the fight. He found that half of Dattu Sungi's men had been made prisoners and all of the rest not killed and wounded has escaped. The four brothers lay dead on the field. Raja Bulu Bittong *vanished* during the ensuing night, and returned to his original state—(that is he died.) [18.]

NOTES.

[18] I have elsewhere remarked that the Kedda annalist merely alludes to the religion which prevailed in that country at the period of the missionary Abdulla's arrival. He tells us only that the images, probably household ones, and kept by the people, were destroyed. But in the Achinese annals it is stated that Johan Pulawan went there long after [in the year of the Higia 1027 or A. D. 1649] to "more firmly establish the faith, and to destroy the houses of the *Liar*" meaning the devil. Abdulla had arrived in Kedda according to the same annals in the year of Higia 879 or A. D. 1501. So that idolatry was not rooted out until A. D. 1649 or 148 years after Sheikh Abdulla's arrival in Kedda. In the above year Sultan Secunder Muda who was before named Johan Palawan of Achin had conquered the countries of Delhi [in the year of Hejira 1021] Bentan [in the year of Hej. 1023] then Pahang [in the year of Hej. 1026] and Kedda [1027.]

[a] Ranjans are short bambu sharpened stakes set in the ground to obstruct an enemy.

The remains of numerous temples which I discovered being induced to the search first accidentally by having seen some loose bricks lying in a spot in the forest, and afterwards from reading the above noticed passages, when joined to the ruins of almost every fort and site described in this history of Kedda likewise found by me, are so far satisfactory, that they verify the main points of that history. All due allowances should be made for the sports of the imagination indulged in by our author. It is not long since supernatural powers were believed in Europe to be acquired by individuals, and when there were always ready reasons to account for what ignorance could not unfold and cupiness would not try to unravel. In a word, what would many of our European histories be if undecked in the flowers of fiction, and did not a vigorous, clear and lively imagination cast around the past and the probable, and often even the improbable, a bright halo of seeming reality. The Baconic method cannot be applied to history, so long as we see not the whole links of cause and effect, but it is to be feared that exerting in the gradually working out of great social and political problems and changes, and in those stirring cases where events often surpass fiction, history would be little better in many civilized countries than a mere dry chronicle. It is easy to state probable facts, and then to draw inferences and advance reasonings on them as if they were truths.

It is curious that neither the writer of these Kedda annals, nor the compiler of those termed *Sigara Malayu* or *Malayan Annals*, have described the nature of the predominant or state religions of their times. Our present author contents himself with slewing only that the Kedda people '*were image worshippers*' while the *Malayan Annalist* leaves us to guess at the religion of the Malays of Malacca.

I have discovered several inscriptions in what I take to be the Pali or Bali character, carved on stone. But they I fear afford no dates. But as they are apparently in very old forms of that character, some light may be thrown on the period when they were employed in Kedda. As we have no Pundits in the Straits I purpose submitting these inscriptions to the learned in Calcutta. One of these inscriptions, or rather a part of one, which I discovered many years ago near the almost obliterated remains of an old temple, has been pronounced by the late and lamented Mr Prinsep to whom I sent it, as "in a style of letter nearly that of the *Allahabad No. II.*" It seems to me that another inscription, found on a large rock at Tokoun in Province Wellesley [a] may also prove of some value, although I doubt if it bears any date. The character is evidently I think one of the antient forms of the Bali or Pali, and I hope to obtain a translation of it. In all my numerous

[a] Some Malays shewed it first to Mr Thomson, Government Surveyor, as a boundary stone, and he therefore paid no attention to it. I copied the inscription with the greatest accuracy as the letters are very large.

excursions in the jungles here I have discovered undoubted relics of a Hindoo colony, with ruins of temples. This tract extends along the talus of the Kedda mountain Jerrei. Besides the Sivaic emblem I found several copper coins. My researches have been unavoidably slow from the almost impenetrable state of the forests, and from the necessity imposed on me by the mendacious or exaggerating propensities of the natives, and the absurd and vexatious jealousy of their rulers beyond our frontier. As I cannot here enter into a disquisition on the antient religion of this portion of the Continent, I will merely observe that my researches have clearly proved that the people worshipped Buddha and at the same time Siva, and *perhaps* some other Hindoo Deities, but that these last classes appear to have predominated in the end, their advancement perhaps keeping pace with the gradual success of the Hindus in India in their rivalry of the Buddhists. Marong Mahawangsa it will be observed brought his idols with him. The credulity with which our author gulps down all the wonderful stories of Sheikh Abdulla is not greater than the avidity shewn by the Malays of the present day to credit every thing related of their prophet and holy men. Pious frauds it appears were equally in vogue with the imams as with the priests of other religions. But religion has generally sat very loosely on the bulk of the Malays, and unless the individual be a priest he often contents himself with allowing others to pray for him. The Mahometans were too far off from the seat of their power to think of establishing their creed by the sword, so that persuasion alone was adopted. The process therefore of conversion was slow, and men, after the people had consented to desert their idols for the new faith, still cherished a superstitious reverence for or stood in awe of these ancient Gods. Even at this day their indirect influence on the minds of the least educated classes is considerable. Thus, although Sheikh Abdulla persuaded the Raja to destroy his idols, of which I have had proof in the mutilated images I have discovered, they were not all destroyed, until one hundred and forty-eight years subsequently to that event. The gold and silver idols were doubtless converted into coin or ingots.

The use of tea and coffee, shews that these luxuries reached them by commerce. It is curious that although coffee grows well under shade on this coast, the Malays of the present day do not take much advantage of it.

We find of course that mosques rose rapidly on the ruins of the idolatrous temples, and that buffaloes were sacrificed instead of rams at the haji feast, the scriptural sacrifice of a ram instead of the son of Abraham,—a practice still continued, for besides the religious act, the Malays prefer the flesh of the buffalo to that of the cow, a predilection, which probably arises from a lingering impression that this latter animal was venerated by their ancestors. I may likewise mention that I found several small talismans of leaf

gold amidst the foundations of temples. These are of a triangular shape and the base about an inch long with old Siamese characters upon them, and several quotations from Pali or Sanscrit religious works, and in a character of the Pali closely approaching to, if it be not the nagari. I have not, owing to the causes alluded to, concluded my researches, but hope in time to be able to finish them.

CHAPTER XIV.

After the departure of Raja Bulu Bittong, the mantri Seta Putra sent a letter to Sultan Muzuffur Shah informing him of the late battle, and that he could not attend the presence in person as there was no one left who could take charge of the two forts, and few left to defend them.

The Sultan said to the four mantris, after the letter had been read. "What advice my brothers do you give in this case?" "Your majesty, replied the ministers, we think that as you are getting old, it will be best that your majesty should send two of your sons to rule over the two forts." The Sultan agreed, and turning to Sheikh Abdulla asked him to confer a title or name on his eldest son, because said he, I wish to establish him as Raja in a fort near to my own residence about a day or two's march off only. The Sheikh consented, requesting that all the mantris's sons should be collected whose parents were old. This being accomplished, he gave to the eldest prince the name of Sultan Määzim Shah. He then selected four of the sons of the mantris present to compose the council of state of the newly made Raja, or Sultan. These were named by the Sheikh as follow:—First the Maha Raja. The second Paduka Raja. The third Paduka Sri Pirdana Mantri. The fourth Paduka Raja Tamanggong.

Now, said Sheikh Abdulla, since there is a Sultan for that country, and your majesty is old, it would be proper that your majesty should abdicate in his favor, and assume the dignity of *Marhum*. Very true, said the Sultan, aged rulers should retire into the dignified state you have mentioned. There cannot safely be two princes in authority at the same time. True, replied the other, for such is written in a book.

The Sultan now made preparations for his son's expedition like those usual when going to war. There were brought into requisition all the paraphernalia of government, the throne and other insignia of a Raja, and all that the armoury afforded, with ministers, officers and attendants.

Meanwhile the two brothers requested leave to depart for their several governments. Followed by the usual retinue they marched to Kota Palas. Here the Mantri Seta Putra put Sultan Määzim Shah in possession of the fort, and then

proceeded with Sultan Mahomed Shah to Kota who was established as its Raja or Governor. Thus *Sultan Măăzim Shah* was firmly installed in the government and throne of Kedda.

After the departure of the two brothers the Sultan Mazulshah had two vessels prepared. In one of these he sent his son before alluded to, Raja Soliman Shah, with a competent retinue of officers and men to form a settlement and to erect a fort and palace at *Lankapuri*. In the other vessel Sheikh Ahdulla embarked, and after he had seen Raja Soliman Shah fixed in his government he set sail directly over the deep waters for Bagdad, a voyage of three or four months, touching at various places and countries for wood and water and provisions for his ship, and then he shaped his course for *Hindustan*, and finally coasted homeward passing the Baldiva islands to wood and water and provision where he arrived in safety, and met his spiritual guide again, to whom he related all that had happened to him and what he had seen since their separation.*

CHAPTER XV.

It is orally related that not very long after these events, and the abdication of the Raja in favor of his son, it happened that Sultan Mazulshah sickened, and passed away from this transitory world into the world of eternity, returning to the mercy of God. So his son Sultan Măăzim Shah continued to reign over the country of Kedda, which flourished exceedingly both as regarded its internal government and population, and as related to foreign trade. His highness also married the daughter of a Raja. He had a son by this lady. But in time Sultan Măăzim likewise returned into God's mercy. He was succeeded by his son who was made Raja by the state officers in the usual way, and was named Sultan Mahomed Shah. His son Mazulshah succeeded, then his son Sultan Solimanshah the prince who became Marhum, or died, at Aceh. His son again, Sultan Raja Aladin Mahomed Shah who was Marhum at Naga in Kedda. His son Sultan Mahia Aladin Mansur Shah, he who was Marhum at Senna in Kedda. His son again Sultan Aladin Makarram Shah, who became the Marhum, as he was called, of the lower part of the river and the balei or hall. His son Sultan Atta Ullah Mahomed Shah. He it was who became the Marhum of Bukit Pinang in Kedda. His son Sultan Mahomed Jiwa Zein al Adin Măăzim Shah, who became Marhum of Kiyangan. His son Sultan Abdulla Alum Kurm

* Ceylon is not mentioned either in the coming or returning voyage. The ship must have gone to Kalinga.

Shah, who was the *new Marhum* of Bukit Pinang, as he was afterwards called. The younger brother of this Raja succeeded him, and at Kiyangan, (Purlis) This Raja was the son of Sultan Mahomed Jiwa Zein al Aladin Ma Alum Shah and his title was Sultan Zea Udin Ma Alum Shah. The next Raja was the son of Sultan Abdulla and his title was Sultan Ahmed Saj Udin Alim Shah, the last Raja who possessed any degree of separate authority. [b] 118]

[b] The following are or were the relatives of this Raja, not including his immediate ancestor in the succession:

- 1 His mother Tuan Mas, alive.
- 2 Than Bisnu, her youngest son, dead.
- 3 Tuanku Chik, sister of Chau Pangeran.
- 4 Tuanku Jumjum, younger sister of do and wife of Tuanku Long Puti.
- 4 Tuanku Tam, mother of Tuanku Kudin, the man who so long disturbed Kedda in trying to expel the Siamese, dead.
- 1 Mother of the Raja Muda and daughter of a Patani chief, dead.
- 2 Her son the Raja Muda called Tuanku Ibrahim, brother by the father's side of Chau Pangheran the late ex deceased Raja. Now governs the district of Kwalla Muda, close to the British frontier.
- 3 Tuanku Soliman, brother of Tuanku Ibrahim, dead.
- 4 Tuanku Su his son, dead.
- 5 Che Fatim Dewi, female }
- 6 Tuanku Daud, male. } Children of Sultan Mahomed Jiwa, dead.
- 7 The Chindra Sari }
- 8 Tuanku Mom. } Children of that Raja by another wife, dead.

Family of the Ex-Raja.

- 1 Ex-Raja Chau Pangeran or Tuanku Pangeran, dead.
- 2 Tuanku Abdulla, eldest son, dead.
- 3 Tuanku Yacoob, 2nd son, dead.
- 4 Tuanku Daii, 3rd son, now governor of a part of Kedda.

Family of Tuanku Ibrahim.

- 1 Tuanku Ibrahim.
- 2 Tuanku Mahomed, son.
- 3 Tuanku Hassan.
- 4 Tuanku Mahomed Jiwa.

Family of Tuanku Soliman.

- 1 Tuanku Soliman, dead.
- 2 Son Tuanku Mahomed.
- 3 Son Tuanku Mat Ali.
- 4 Tuanku Mahomed Kappie.

Family of Tuanku Bisnu.

Tuanku Mahomed.

Tuanku Mahomed Akeeb.

Tuanku Mom's Family.

- 1 Tuanku Jaffer.
- 2 Tuanku Anoom, killed in fight, son.
- 3 Tuanku Mahomed Ali, son.
- 4 Tuanku Allang, son.

Tuanku Daud's Family.

1 Tuanku Mahomed Saad, who was the leader of the last rebellion against the Siamese power, died in 1847. He married Tuanku Soliman's daughter. Issue by her.

NOTES.

[18] Sheikh Abdulla arrived in Kedda in the year of the Hira 879 or of A. D. 1501. There were seven chiefs including the first who had governed before his advent, besides an interregnum of 7 years, and one of these chiefs is not named. Allowing to each thirty years, which I think are not too many with advertance to the average of life of Malayan princes generally, and to the fact that the period of each successive Raja after Islamism was introduced and when Kedda was subject to invasions and wars averaged twenty-eight years, Thus we shall have the year of Christ 1284 as the date when Marong Mahawangsa reached Kedda from India, and most probably, from the remains I have found, from Kalinga. The Kedda Raja who first went to Malacca to get the noubuts or drums of ceremony from Sultan Mahomed is not named in the Malayan annals. This was about perhaps A. D. 1540. The religion of Islam was finally supreme in Kedda on the arrival of Johan Palawan A. D. 1535.

The following are the conclusions which I think necessarily follow an analysis of the Marong Mahawangsa :

Firstly—Kedda or Srai was densely peopled long before the arrival of the Indian colony, and either by the Siamese, or some other cognate race, but most probably by the former, but that this country was only inhabited by wandering tribes when Ligor was first conquered by Siam about A. D. 700 to 800, and had not then been formed into a province, but existed under chiefs. In any case Kedda could hardly fail when it became originally peopled to come under the direct government either of Ligor first perhaps, and then of Siam.

Secondly—That the colonists or rather strangers were not conquerors, but were permitted on their special solicitation by the aborigines or Siamese of Ligor to form a settlement, and that, probably owing to their superior civilization, the chief of the colonists was selected to govern the whole by the paramount power in the N. E.

Thirdly—That the account of the ambassadors from *Rum* is a fiction with reference to Kedda, but may have been *in part* true with respect to some other country.

Fourthly—That the original Hindu settlers were few, but that they afterwards received accessions from Kalinga in India, and were mixed up latterly with the Siamese and Malayan races.

Fifthly—That these colonists were idolaters, and chiefly if not wholly, worshippers of Siwa.

Sixthly—That the assumption of a grandson of Marong Mahawangsa having given a king to Siam is a Malayan and Islamic political fiction. But that the statement itself would lead us strongly infer, that Kedda was a Siamese province when that young prince set out towards (it is stated) the North N. West. But that

this last direction is clearly a clerical error, for it would lead into the sea, and the intention of the author and his naming of *Siam Lanchang* indubitably indicate that the direction was *easterly*, and that the route terminated close to the sea on the gulf of Siam. This if N. N. E. instead of N. N. W. would bring the end of the journey very close to Ligor, which solution I am the more disposed to adopt, because this town lies on the present direct line or route to Siam from Kedda, and has always been up to the present day in close connection with Kedda.

Sixthly—That when Kedda began to be thus visited by Indians, and became a trading port, the Siamese established a regular provincial government there, and appointed governors under the titles of Phriya or Phraya. But that the Hindu chiefs substituted within their own jurisdiction and amongst their own people the title of Raja. That special deputations of officers also of high rank, were sent from the capital of Siam to instal each successive governor in his office, and that where no political obstacle interfered, the succession to this office, as is the case with regard to other Siamese provinces, was allowed to descend from father to son.

The later history of Kedda may be thus shortly summed up. I have indeed had no means beyond oral traditions for filling up the blank from the period when Islamism was introduced up to about that when the British appeared in the seas to the eastward. The country was attacked on several occasions and overrun by the Achinese and the Illanoon pirates, and perhaps by other maurauders, with whom its population from its agricultural habits seems to have been unable to cope, and it was often called upon by the Siamese to join in their wars against Ava.

The Rajas after their conversion to Islamism doubtless began to dislike their rulers on account of their religion, which was Buddhism, and watched for an opportunity to cast off their allegiance to Siam. But they found it dangerous to call in the aid of any one of the Malayan states further east, because it was just as likely as otherwise that any such ally would find it convenient to gratify the feelings of his piratical followers by keeping possession of the country after having freed it from its state of subordination to Siam. When, however, Europeans began in numbers to navigate the bay of Bengal, and Portuguese usurpation and aggression had ceased in the Malayan Peninsula, the Kedda Rajas thought that it would be a grand stroke of policy to ally themselves with one of the European powers, and if possible with the preponderating one. Overtures were accordingly made to the Dutch, who were, on the decline of the Portuguese, the most influential nation to the eastward, but nothing worth recording was concluded. Some preliminary negotiations were also entered into with the French but these also proved unsatisfactory.

The British soon after entered on the field, and as they were in quest of a settlement, the then Raja of Kedda eagerly met their

views by ceding Pulo Pinang, to which Province Wellesley was afterwards added. The cession was made under the express avowal of the Raja that he was an independent prince [] The Siamese court protested against the cession, but as the island was then apparently to them of little or no value, and they were involved in constant wars with the Burmans, the subject was dropped, and the right to occupy as acquired by actual occupancy was subsequently admitted by Siam. The treaty of cession was not an offensive and defensive one, so that the chief object of the Raja was defeated. Such a treaty could not have been justly framed by the British when it became clear, as it soon did, that Kedda was subject to Siam. It was clearly the interest of the then Raja to deceive Captain Light, the original negotiator, while that officer seems to have been quite ready to give credence to his positive assertions of his independence. One advantage the Rajas did gain and kept up to the expulsion of the late Raja, and this was that the knowledge of a friendly relation subsisting betwixt Kedda and the British deterred the Siamese court from many acts of sovereignty, of no very mild character perhaps, which it would else have inflicted on that country. But the feeling was obliterated by time and old customs again resorted to.

The late Raja who enjoyed the Siamese title of Chau Pangeran, but who was a person of little political foresight, and acted (as the Malays generally do) from the impulse of his feelings, became refractory, and was expelled by a Siamese force in A. D. 1820. He took refuge within the British territories, where he continued to live until a few years ago, when by the intercession of the Indian government, at the suggestion I believe of Governor Bonham, the Siamese were induced to permit him to return to Kedda as its governor. But they gave him only a part of the country, from and including Kedda river and a space to the N. of it; south to Krian river [excluding of course Province Wellesley.] The three other portions were placed under Malayan chiefs. When this had been effected, the Siamese governor was with his troops withdrawn.

The Raja died in about 1845-46 and one of his sons Tuanku Dai, having gone to make obeisance at the court of Bankok, was placed in the government with an inferior title, for it is the policy of Siam to elevate public officers by degrees of rank according to their merits.

[] Pinang Records.

FIVE DAYS IN NANING,

FOURTH DAY.

[*Fourth day, Friday 12th February*]

IN the morning some of the Bësi amused themselves with making a bulu perrindu, and others went out with some of the Malays to hunt wild hogs. They returned carrying a large sow which one of the Malays had shot.

In the course of the forenoon they became listless and finally sullen. The strain upon their minds and the restraint had become too irksome to be borne longer, and they asked permission to return to their houses.

I shall here add a few more remarks respecting them. A careful comparison of them with the Malays around me confirmed my first impression, and the following is the conclusion at which I arrived, as written down in my note book after they left.

There is a general resemblance between the Bësi and the Malays, and many of the latter here in form and features, do not differ from the former. The grand distinctive characters are the expression and manner, which in the Bësi indicate a rustic simplicity. The Malay has a wide range of ideas, a complexity of prejudices, and refinements, much tact, and, in a word, is a man of the world. All this is wanting in the Bësi. The expression of the eye, when they are in their ordinary state of good humour, is soft, confiding and distinguished by a liquid lustre from that of the Malay. The only appreciable physical peculiarities seemed to be that the corners of their lips were more square, and the feet very pliant in front as if they had an additional joint, the toes not turned out like those of the Malay, and perhaps more spreading. The Bugis features often approximate more to theirs than the Malay. They cannot keep their attention long directed to any one thing, and in this, as in some other traits of disposition, resemble children. The tones in speaking have a character similar to the Malay voice. One of the women had a soft and sweet voice, and when I managed to engage one of them in conversation her voice was scarcely distinguishable in its tones and expression from that of a Nanning woman with whom I had been talking. Many of the Malays habitually, and most of them occasionally, indulged in long drawn vowels like the Bësi, and the manner and tone of the Nanning women, as we passed their cottages, in pronouncing the last word of the usual question "Tuan pergi Kamano—o—o?" was the same as that of

the Bēsisi women. Making every allowance for the intermixture that has taken place from the Sumatran emigrants marrying Bīnua women,—that is discarding the peculiarities of the Naning or Menangkabite Malays,—there remained abundant traits to compare them with the Malay race generally, and to justify the conclusion that they are undoubtedly the original or uncivilized, perhaps we might say with truth, the unadulterated Malays.

The mode of marriage was described as follows. All the relatives and friends of the bride and bridegroom having assembled at the hut of the lady's parents, the bridegroom first presents siri (betel leaf) to his future father in law and then to all the bride's relatives. The bride's male relations then present it to those of the bridegroom; lastly the bridegroom offers siri to the bride, and the marriage ceremony is complete. A feast follows. There is no fixed age for marriage, and the bride is sometimes married when a little child. The husband in such cases carries her to his house and brings her up. When she arrives at the age of puberty a feast is sometimes given, but neither a feast, nor any other ceremony or intimation is essential.

Their favorite food is the wild hog. The domestic pig, fowls &c are considered insipid. They eat the salted fish which I procured for them at the Chinese shops with a hearty relish after very slightly broiling it.

In the fruit season they make great feasts. All the families of one kampong provide a plentiful supply of wild hogs and other food with arrack tampui, and invite the inhabitants of another kampong to feast with them. They eat and drink till they become jolly, and then they dance and sing, the men and women mingling in the dance. The former ply the latter with arrack till they are in a kindly humour, when they place them on their knees and pass the rest of the day in drinking and singing. The men and women sing to each other alternately. Such is their own account.

They described five races of men as inhabiting the mountains of the interior, and all differing in some degree in language. The Mawas are naked savages who run away when they meet Bīnua.* The latter in their own mountains wear terap bark round their loins.

In the morning while the Bēsisi were breakfasting I examined the immediate neighbourhood of Ayer Panas. The hill on which the bungalow stands has a surface of a light brown

* As the Johore Bīnua describe similar wild men (orang utan) I cannot help thinking that the Peninsular jungles must have some large species of orang similar to the Bornean.

ish-white, sandy clay. Beneath, a little lateritic gravel is sprinkled. A series of kampongs stretches along the margin of the plain behind the hot swamp. The trees were chiefly the mamplām, durian, anu, or gomuti, the pulasan, ramuniah, langsat, rambi, rambutan and maugis. One of the inhabitants seeing me busy with my hammer volunteered to show me some black stones with cups which had been hollowed out by the dewas. He led me across the flat which joins the Ayër Panas plain at its angle, through a kampong full of gomuti trees, into the jungle behind. Here he pointed out some large black blocks of the common hard scoriform ironrock or hydrated peroxide of iron. In one of these there were three circular cavities,—one 2 feet in diameter, 15 inches deep and with a rim almost a perfect circle,—and the others about 8 inches in diameter. In the interior of the largest cavity there were three projecting circular bands or ridges parallel to each other. Other blocks around had hollows but not so symmetrical. The rock was an uniform slag-like hard shining clay, so that although I was satisfied that it must be a transformed or ironmasked rock, it was impossible to determine its original type. In returning I examined a large block immediately below the hollowed rocks, and found it to contain bluish quartz intermixed with the hydrated peroxide. Much of the same quartz is strewed on the ground further down. Beyond this there is a conical heap about 20 feet in circumference at its base, and 4 feet high, consisting entirely, at least on the surface, of gravel of different shapes and much of it enameled. Much of it was quite slag-like or ironmasked, but many pebbles were a micaceous* rock, and justified the belief that this part of the district, like that between Ayër Panas and Alor Gaja, was originally a micaceous clay.

It appeared to me that the cavities were probably formed in the same mode as the mammillary excrescences at Pulo Tikong Kichi and many other places near Singapore. The hot ferruginous gas had first swollen out the laminated rock into a bubble and then burst and dissipated the laminæ leaving only the edges projecting.

In recrossing the flat I obtained a fine view of Ophir, which instead of an isolated mountain appeared from this point as a long range, thus affording a key to its axial direction. At the base of the elevated ground behind the hot swamp, a pit had been newly dug to the depth of five feet. The upper part was whitish and the lower bluish clay, resting on angular

* Or talcose. I cannot at present refer to my specimens.

fragments of bluish quartz, thus in every particular resembling the gold pits of Jalatong.

To complete my notes on the mineralogical features of the environs of Ayër Panas, I may here mention that beyond the hot swamp on the south side of the road and near the Ganong hill, there is a block of white quartz and another in the flat adjoining.

In the evening I returned to Alor Gaja.

FIFTH DAY

Saturday, 13th February.

This morning I walked to Bukit Paku. We first crossed Bukit Kilūna, the hill above Alor Gaja. It is covered with fine laterite gravel of a reddish brown colour, and so much ironmasked as not to be easily distinguishable. Some specimens however shewed the original rock to be schistose chocolate colored clay. We crossed several flats, some of them deep swamps, and passed several kampongs and eminences, till we arrived at a hill with red soil, on the margin of which there is a gold pit which was formerly worked. Sufficient gold was not obtained to induce the Malays to open other pits. At last we reached Bukit Paku, and at the bottom of the hill found a large pit dug in the swamp from which a bluish clay stone is extracted. This stone is called batu paku and is used all over Nanning for whetstones. In the reddish clay near the surface there were some small stones, highly ferruginous.

I returned the same day to Malacca, and had more leisure and light to notice the mineral character of the country between it and Alor Gaja, than on the first day of my excursion. Many of the eminences (which are broad slightly elevated tracts more than hills) seem to be surrounded by the narrow winding swamps. The hill of Rumbiah has protruding iron masked rocks, and at one place, which the road crosses, much quartz in angular fragments. The hill on the slope of which the Kampong of Kayu Rumpūt lies, has large blocks, some of white quartz, and other with quartz and ironmasked rock intermixed.

A fine rice plain succeeds and we cross Bukit Bangsal which has also ironmasked blocks and gravel.

The low eminence of Malim shews many laterite rocks. The Malays were raising sectile laterite from some deep pits here to serve as pedestals for house posts.

In ascending Bukit Ching from the Naning side the soil is at first reddish, with laterite pebbles. It then becomes quartzose and presently whitish with a foliated siliceous clay, which continues to the summit, and a considerable way down the opposite side. It is occasionally quartzose. Towards the bottom of the Malacca side it again becomes reddish with laterite blocks. The low hill in front is also reddish with laterite. There is a good view of Ophir and the intervening country from the summit of Ching. A large tract of flat land covered with glam jungle, stretches from the foot of the Ching group in a direction between that of Mount Ophir and Malacca, and round the group towards the west.

As an appendix to these notes, I shall, in a future number, bring together some scattered remarks on Naning generally, which I have not yet taken occasion to introduce.

TOUR IN JAVA.

FROM SOURABAYA, THROUGH KEDIRI, BLITAR, ANTANG,
MALANG AND PASSURUAN, BACK TO SOURABAYA.*

By JONATHAN RIGG, Esq., Member of the Batavian Society
of Arts and Sciences.

From the mist of these surmises we will return to the thread of our journey. Soon after day-break, on Thursday the 24th June, we were again seated in our travelling carriage, and proceeding through alternate plantations of Coffee and Paddy soon found ourselves at Garom, at a distance of 125 pauls from Sourabaya. From this spot we had to send back our carriage to Sourabaya, as the road after this is not fitted for wheels, though if sufficient motive existed, it might easily be made so. The carriage was dragged back by buffaloes and arrived safe at its destination after a week, though only attended by the driver of the cattle. Mounting now on horseback we advanced first through a long and rich Coffee garden, and then emerged into a wilderness of glaga and bushes, keeping gently rising all the way along one of the sloping plains at the foot of the Klut. The land is not always equally fertile, as in places the volcanic rollers and debris are scarcely covered by a scanty vegetation, marking as it were the course of some eruption. Glimpses are now caught of the limestone ridges which skirt along the southern shore, and which prevent the Brontas from finding egress in that direction, compelling it thus to perform a long and circuitous route till it discharges itself into the Straits of Madura at Sourabaya. The Gunong Kawi is seen still far a head in the haze. Some small streams are passed, the largest of which however is rapid and splashes merrily over its bed of trachyte boulders, a sight which we now for the first time enjoyed since leaving Sourabaya. This is the Kali Lëso issuing from between the Kawi and Klut, and up the course of which we travelled later in the day. Soon after crossing this stream the road turns to the left towards the Kawi and we soon arrived at Wëlingi after a ride of 9½ pauls, having thus come 14 from Blitar. We may here for a moment look back upon the country we have been traversing. It has always been in the valley and along the course of the Kederi river, from which we are now also only a few pauls distant, where it is however known by the name of Kali Ngajang after having dropped that of Brontas by which it is designated in the higher region of Malang. Wëlingi is 13¼ pauls distant from Sourabaya, the ascent is very gradual all

* Continued from p. 252.

the way, and considering that one has now nearly crossed the island, is very trifling. Junghuhn states that the town of Kediri is not more than 197 feet above the level of the sea; at Blitar this elevation has increased to 505 feet and Welingi may be 100 feet higher again. The soil is every where light and good, and with the aid of irrigation would be sure to produce abundant crops. For want of population, however, vast tracts of fine land, particularly in Kediri, are lying waste and useless, and even under the most favourable circumstances, some generations must pass away before all the good land is likely to be occupied. This, however, would be the country for Government to convert into a rice granary, to supply the want of food which has arisen since the old rice lands near the coast have been so extensively appropriated for the cultivation of sugar cane. But improvement in, or even a careful surveillance of, the rice cultivation appears to occupy little of the serious consideration of the government authorities, whose exertions are mainly devoted to the production of Sugar, Indigo, or Coffee, articles more immediately suited for export to Europe and forming the objects of a cherished monopoly. Rice, like all other articles, to succeed well, ought to be planted at a suitable season and properly taken care of. It is a cultivation to which the Javanese is attached and willingly devotes much time and trouble, if not dragged away to other work. A little matter, however, easily disarranges him, and this is a reason the more that the government ought to be careful in watching that the interests of the rice crop do not suffer by their interfering with the disposal of the natives' labour. Paddy to do well and yield a luxuriant crop ought to enjoy the benefit of the natural force of vegetation which is experienced in the early months of the year. Irrigation, however potent, can never produce the same happy results when the atmosphere above is scorching and withering, as when combined with showery and alternately sunny weather; and there ought therefore to be some system adopted, varying with local circumstances, to compel the people to plant their rice lands at a season when the greatest benefit might be reasonably expected. On the low lands in the neighbourhood of the sea coast, the excuse for the late planting is the fear of inundation during the prevalence of the North West monsoon, but this argument cannot hold in the interior where an easy drainage is generally found, and here, by neglecting to plant sufficiently early, the best of the growing season is missed, and at a later period, when most wanted, the sources of irrigation fail. I will now give a view of the state in which I found the paddy crops

along the valley of Kediri at the end of June, when, according to my ideas, it ought to have been all cut. In the delta of Sourabaya, as has been before observed, part had already been cut and the lands were preparing for next year's cane crop ; part was still on the ground and for the most part looked stunted and indifferent, most probably from want of water, which at this time of the year, is used at the Sugar mills. About Modjokerto matters were hardly so far advanced, and we observed some Bally rice being landed from boats just arrived from Sourabaya, showing that the fresh supply of the country was not yet sufficient for the consumption. About Modjo Redjo and the Kediri river the rice was partly in ear but still green, with many patches of cultivation suffering from drought. Arrived in the Residency of Kediri, the paddy was still green and not even yet in flower. Close to the town of Kediri, however, along the western bank, and in front of the Residency, an extensive flat of sawahs was ripe and the grain being gathered in. The crop however was thin and the straw short, as if there had been a deficiency of water. Through Sringat and Blitar the paddy was the most backward of all, being every where quite green, and even in a few places had only been just transplanted. At Welingi it was a little more advanced and was coming into ear in many places. When we got up into the mountainous district of Antang, the paddy had been all cut and gathered in from the ground ; here they had a good crop and on our way up we met several horse loads of paddy passing down to Welingi to meet consumption. In Malang the greater part of the crop had been harvested ; but some yet stood on the ground.

The valley of Kediri is one of those land-straits, if the expression may be used, which are found to intersect the island of Java in various places. In this case, the strait may be traced from the sea, south of Madura, along the course of Kediri river, between the lofty mountains of Wilis on the one hand, and Klut and Kawi on the other. The passage through to the South Sea is intercepted by the limestone ridges of Rowo and Ludoyo, which run in the direction of the shore, but which, at some former geological period had been formed under the sea, as their frequent coralline structure and imbedded marine shells still attest. I was not upon these ridges on this excursion, but in 1839 crossed them further towards the east, between Malang and Trigonolio, and made the observations above alluded to. The limestone in places comes down to the Kali Ngajang ; and at a village called Jéblog about 6 pauls from Welingi, on the banks of that river, the stone is

occasionally burnt for lime, and was used for building the Gaprang saw-mill, as well as the fort at Kediri, if I am rightly informed. This strait has most probably been in a great measure filled up with matter ejected from the Klut. The debris of the mountain, forming a talus round its western base, had forced the Kediri river to find its way along the western confines of the valley near the range of Wilis, nor has it yet been able to burrow down to any firm rock or stratum in situ, but still forces its course through the loose earth and gravel of the surface.

From Wĕlingi, there is a road, passable however only on horseback, which leads by way of Senggoro to Malang, always keeping to the valley of the Brontas, round the western and southern base of the Kawi. The distance is said to be about 40 pauls.

Though Wĕlingi is not often troubled with the presence of European visitors, it nevertheless possesses the rude means of accommodation. In a corner of the Lurah's yard is the Pasangrahan or Rest House, a rather primitive edifice of bambu and thatch. It is portioned off into a few rooms, the furniture of each of which consists of a bambu bali bale, an allegorical representation of a bedstead, and a stake of bambu, split at one end so as to form a tripod, whilst the shaft rising upwards is destined to bear either an earthen cup or the less presuming segment of a cocoanut shell, which, supplied with a little oil and wick, performs every duty of a candelabrum. We were entertained with all due ceremony, in a roomy shed or pondoppo adjoining in front, the earthen floor of which, for the occasion had been covered over with a collection of rattan mats. In the midst of this hall of audience was a small wooden table of plain workmanship, and at either end a chair, to which we were conducted to partake of the hospitality of the place, which consisted in the first instance, of thick muddy coffee, uncontaminated with milk, fine ripe plantains and a variety of kwé-kwé of ambiguous origin, whose history, for the sake of delicate stomachs, is better left untouched. These preliminaries were, after a couple of hours, during which sundry solemn embassies was despatched to the Lurah's wife to ascertain the progress of culinary events, followed by a smoking basket of excellent boiled rice and a few grilled fowls twisted into various fantastic figures, as if the poor birds had still suffered, upon the hot embers, the bitter pangs of an untimely end. Notwithstanding this sentiment of philornithic sympathy, the two graminivorous and carnivorous animals seated at the table, made sad onslaught on the viands,

nor ceased till they had sated the cravings of their sharp appetites, which had been whetted for the occasion by a long morning's ride, and had to be blunted preparatory to a more arduous mountain excursion. The village worthies and officials being seated on the mats around, in earnest conclave, while waiting for breakfast, a good opportunity was offered for enquiring into the history of an extraordinary being who died on Gunong Kawi about the year 1833 or 1834. This person always went by the name of Eang Romo—Eang signifying ‘of the olden time’ and Romo being a honorific designation of “Father.” As a young man he is said to have been born and brought up at the dessa of Wagu, east from the town of Kediri, of mean parents however, having no pretensions to nobility. He in the first instance became hermit upon the Gunong Wilis, but appears to have been of little note till he removed from that mountain to the Kawi, which took place at the time of the rebellion of Raden Konggo and which must consequently have been in November or December 1819, as at that period this prince absconded from the Court of Juggokerto and endeavoured to raise a rebellion in Madion. From this he was soon afterwards driven by the troops of the Sultan aided by a few Dutch auxiliaries, and on the 17th December met his death in an action near Kerto Sono. Eang Romo was considered to be perfect in his “Ajaran,” or works of penance and mortification, he never eat of anything that had drawn the breath of life, subsisting on rice and vegetables, in the use of which even he was most abstemious. He used to pretend that he never slept but only occasionally dosed a little, and to check himself in which as much as possible, he had a peculiar kind of seat prepared in which he placed himself when drowsy, and which was so constructed as to rouse him, when from incipient sleep, he lost his equilibrium. Mr William Stavers relates that he once had the curiosity to visit this old man on the Kawi, and curious to test his power of refraining from sleep watched him all night. Only on one occasion he fancied he caught him napping and immediately springing to his feet taxed him with the same. The old man, however, without losing his composure, quietly rolled round his head and answered “Bhoten”!—it is not so. Year after year he kept moving his station higher up the Kawi, near the top of which he had arrived at the time of his death. By his own strict order and wish, the mortal remains of Eang Romo were not committed to the earth, but consumed on a pile of wood, a thing probably unheard of in Java for some hundred years, since the introduction of Mahometanism; the ashes are re-

ported to have been left where the body was burnt. Eang Romo was not a Mahomedan, he practised none of its rites, he professed none of its doctrines, but appears to have taken for his example the manners and habits of the Hindu or Buddhist ascetics, of whom mention is made in the earlier period of Javanese history. He left no children, and was never known to have had a wife. He was, however, always attended by a female, whom he brought with him from the Wilis. She prepared his simple food and attended upon his wants. She also is said to have lived a life of single blessedness, and still survives at the village of Galor near the foot of the Kawi and is known by the name of Nini Endang. Strongly impressed with the Buddhist idea of transmigration of souls, and of the nature of that transmigration depending upon the pure or wicked life spent in the present state, the object of Eang Romo's mortifications is said to have arisen from his desire to raise himself in the scale of society in a future state of life, his prayer and wish having been to be reborn a nobleman and a Tumunggung. Poor deluded creature, it is to be hoped that his harmless life will find him favor for better things than this world can bestow! Eang Romo must have been about 80 years of age at his death, which took place about a year and a half after Mr Laup's arrival at Blitar in 1832. The Panghulu of Welingi, one of my numerous informants, a man fully 55 years old, stated that he perfectly well remembered seeing him soon after his arrival on the Kawi, at the time of Raden Ronggo's rebellion, and that Eang Romo then had the appearance of being as old as he, the panghulu, now is, viz about 55, and adding 23 or 24 years, till the period of his death, brings him very closely upon the age of 80. Eang Romo was succeeded in his honors and profession of a hermit, by a person who had long been his disciple and who originally came from Banjumas. He was known by the name of Modjo Roto or Eang Sari, but had not yet attained that degree of sanctity or self controul for which his master was so conspicuous and whom he was destined to survive only two or three years. His remains were not burnt but interred in the Mahomedan fashion at Singo Modo on the Kawi. He also was never known to have wife or children, and observed in every way possible the practises of Eang Romo. About half a dozen families always lived near Eang Romo and moved with him about the Kawi, none of these ever practised the Mahomedan rites, but now submit to be married by the priests of that religion, though they still cling to Nini Endang at Galor.

Before 12 o'clock we were again on horseback, having a long uphill journey to perform to Antang. Passing up through the mountain gap between the Kawi and Klut, close behind the village of Wélingi, we crossed to the northern bank of the Kali Lésso, formerly mentioned, and then followed up its course towards the mountains. We soon got into forest and jungle, with here and there a few Coffee trees, keeping constantly rising. At a distance of about 6 pauls we came to a small hamlet called Wonosari, and here crossing again the Lésso, after half a paul's ride up to the opposite side, reached the village of Semén, situated in a patch of Sawahs and already amongst the hills, which now rise higher and more precipitous as you proceed. At Semén we changed horses and immediately continued our route, having in the next hour and a quarter to perform the most rugged part of our journey; we were however, well mounted on strong active ponies, which scrambled famously up and down the steep declivities. Luckily, the weather had latterly been fine, and the ground was just moist enough to afford a firm footing; in wet slippery weather, some parts would be almost impassable, as the way, at the best, is only a rough path through the forest. A great many of the Areu Palm trees grow here spontaneously, and in snug secluded valleys we saw and passed several small establishments, built for collecting and boiling down the toddy to jaggery sugar. Large bambus are also in abundance and are very useful in carrying on operations, serving as ladders to mount the trees, buckets to catch and transport the toddy, as materials for the construction of the huts, which are even roofed with bambus, split up like tiles, instead of thatch, and called by the Javanese klakke. After journeying about 10 pauls from Wélingi, we arrived at the small secluded mountain village of Kirisie, near to which is a tall conspicuous and precipitous cliff standing up at the end of one of the numerous spurs of the Klut. Immediately beyond the village, is the boundary with Malang, where we fell in with a regularly constructed bridle road, 10 or 12 feet wide, which constantly improved the nearer we approached Antang, now distant exactly 11 pauls, as indicated by posts set up at regular intervals. Our way was still upwards for three pauls but not so steep as before. Here we found the dwarf Palm, *Areca humilis*, very abundant, in places constituting almost the only vegetation of the forest. The Javanese call it Piji and it is the same as the Bingbing of the Sundanese, Bau bus still continue large and plentiful. The summit of the gap being reached, we again began to descend and at 7 pauls

from Antang reached the village of of Pagar Sari, where we were supplied with fresh horses to continue our further downward course; the road now becomes larger and is better kept up, and by the time we reached the 4th paul, near the extensive village of Ngantruhi, we were again in a rich cultivated country. A beautiful day was drawing to a close, and proceeding leisurely through this charming country, a while after crossing the Kali Konto, we arrived, just at dusk, at the commodious Pasangrahan of Antang, well pleased with our day's exertions and not a little thankful that we had reached a spot where we could rest comfortably for the night and refresh ourselves. We had performed thus the journey from Welingi, a distance of nearly 22 pauls, in about $6\frac{1}{2}$ hours; with less favorable weather it would require great part of a day.

The elevation at Antang being considerable, say a couple of thousand feet, the climate is proportionably temperate and a great difference is experienced from the fierce heat of the plains: Of this we had notice during the night, the cold compelling us to look round for boat cloaks or other travelling appurtenances, under which to nestle the body unaccustomed to this chill air. On rising, at break of day, the thermometer indicated 63° of Fahrenheit in the open air, a dense white fog hung sluggishly in the valley, excluding the view of the surrounding hills; this induced us to saunter away a couple of hours previous to starting, that we might enjoy a good view of the place before we were forced to pass on from so charming a country. In the mean time the examination of antiquities collected about the Pasangrahan afforded employment. The most conspicuous object is an inscribed stone standing under a Weringin tree. It is inserted in a foot piece or pedestal of a foot in height; it rises 5 feet 2 inches above this, at top is 2 feet 10 inches broad, narrows a little as it descends and is one foot thick, altogether resembling the head stone of a grave. It is covered all over, front, rear and both sides, with a very neatly executed inscription, which is still perfect and distinct, but not intelligible to present Javanese. It is said to have been originally discovered in this spot. The characters are of that peculiar square figure with circular diacritical marks of which Raffles gives a specimen, also from Malang, in his 1st vol of Java, on the plate opposite page 368: he there gives the corresponding Javanese characters, but as yet no one seems to have prosecuted the task of forming an alphabet and deciphering these remains of long past ages. Two stones representing the usual gorgon's heads are here also and appear

to have served originally for lintels of doors, though it is not known that any remains of temples or buildings exist in Antang.

Several small images are arranged round the grass plot in front of the Pasangrahan, but none are above 2 or 2½ feet in height, and all are said to have been found in the neighbouring forests. Three treasures, however, are preserved amongst such as I had never before happened to meet, viz three supposed figures of Brahma, with each four faces. A few analogous figures are sketched in Raffles' Java, found about the Residency of Kedu, but they are rarely met with. The three Brahmas at Antang are nearly of the same size and about 2 feet in height, each squatting on a pedestal of lotus leaves. The most perfect and well executed of the three is placed at one corner of the pondopo of the Pasangrahan, and a description of which will answer for that of the other two. Only one body is represented, surmounted by a single head, which however presents four faces—one looking as usual forward, another backwards, and one over each shoulder. The head is crowned with a tiara, representing an ornamented, truncated cone, such as is usual with other Hindu images. The figure, as above mentioned, is squatting on a pedestal of lotus, with legs folded up in front, but covered with a drapery which descends from the body, on the folded legs reposes a pair of folded hands, with the palms upwards, and then descends the bracelet tassel from the neck. Armlets are seen on the wrists and on the upper arm; there are also earrings between the faces. The back is smooth and even, with the exception of two accidental indentures. Against the left shoulder, a hand holds a chamara or fly whisk, whilst a corresponding hand, at the opposite shoulder, is inserted in a ring of beads. The arms to the body are thus four, two on each side. The noses have all been knocked from the faces which are otherwise perfect and represent the mild Hindu features. The two other Brahmas have an upturned hand reposing on either knee and not folded together.

Another rare image is sitting astride the neck and shoulders of an animal with large ears like those of an elephant, but the face is not that of this animal, though the snout has been knocked off; the hoofs are cloven. The figure has on the usual quantity of armlets and necklaces, and is crowned by a tiara. One pair of hands join in front and hold some indistinguishable object to the breast; the second pair of hands hold—on the left a *bow*, and on the right a *jagged arrow*.

There are two little Ganesas with elephant heads, also an upright figure as if in the act of walking with garments

streaming around it ; the left hand holds a trisula with a long handle. In addition there are three figures of Durga of which Raffles gives several representations. All three are standing on the recumbent buffalo, the tail of which is held in the lower right hand, whilst the corresponding left grasps the hair of an imp which stands on the head of the buffalo, and in one instance is seen to hold up a hand in a deprecating manner. The numerous other arms of Durga hold various insignia.

As the sun got up the mist cleared off and allowed us to get a view of the country. The district of Antang is an upland vale, surrounded by mountains, which are clothed with dense forest, the lower borders are planted with coffee, whilst the undulating vale itself is occupied by numerous woody village steads surrounded by Sawahs, from which the crop of paddy had lately been taken. The Pasangrahan is situated in a recess at the North Eastern corner of the vale and commands a fine view. It is close to the range which comes down from the Arjuno, and here terminates in what the people of Antang call Gunung Indoro Wati bearing East 40° North. West from the Pasangrahan the vale is bounded by a steep ridge called Gunung Loksono, over the top of which is the shortest route to Kediri, but the usual and made road is down a steep valley or gorge between it and the Indoro Wati, being a distance of 37 pauls, with an intermediate station called Parie, already 20 pauls from Antang ; so that our route via Blitar was nearly double of the direct one. At the South Western foot of the Loksono and between it and the spurs of the Klut, the Kali Konto escapes from the vale, taking with it the whole of its drainage. This river is said to divide itself into several courses in the lowlands of Modjo Rijo and Agung, as no one corresponding large stream is there crossed. Bearing from the Pasangrahan South 30°. West rise the numerous and shattered tops of the Gunung Klut. Proceeding Southward, round the circumference of the vale, is the ridge which connects this mountain with the Kawi, which we had crossed the day before at Pagar Sari, and over which, from some positions, is seen towering the steep tower rock of Gunung Kerisie. The Kawi is higher than the Klut, and has a more regularly formed cone ; it bears from the Pasangrahan South 20° East, and with its subordinate parts shuts in the East of the vale of Antang. Here we come round upon the deep gully of the Kali Konto, which rising to the Eastward of the Indoro Wati hills, here passes between them and the Kawi, and along the course

of which is the main road communicating with Malang.

Coffee is extensively cultivated in Antang for the Government. We were told that it produced this year 11,000 Piculs with a population of 10,000 souls, though the published statements in the *Tijdschrift* only give us 7,627 souls. The little pulping machines are seen in all directions, set amongst the Sawahs, the water of which is used for driving their diminutive wheels.

On enquiring after the origin of the word Antang, the Widono informed us that it arose from the former Tumungungs or chiefs often resisting or neglecting the order of the court of Mataram, being amongst these mountain fastnesses out of the reach of the ordinary means of controul. He however, very naively observed that now a days they were all good and dutiful subjects quietly obeying the orders of government. This Widono is much of a gentleman and seems to take a great degree of pride in having his district in nice order. The roads, in spite of the hilly nature of the ground, are in excellent order, and he points to them with a great deal of self satisfaction, boasting that he even goes in his buggy to Malang, with only a *little* assistances of coolies at the steeps. He supplied us with capital horses to continue our route, and accompanied us a part of the way in the cool of the morning. Antang is 27 pauls from Malang. After leaving the vale our course lay up the gully of the Kali Konto which is narrow and precipitous on either side, the river impinging first against one wall and then against the one opposite; this has caused some difficulty in constructing the road, and made many bridges necessary, as the river has to be crossed about a dozen times. At one place a very picturesque waterfall attracts attention; a good stream making a clear leap of the steep wall which bounds the side next the Kawi. After riding about seven pauls the road leaves the valley of the Kali Konto and leads up a very long and steep hill on the Southern bank. At the top, you are somewhat surprised by coming out amongst Sawahs, but these are watered from the higher flanks of the Kawi beyond. Here is the village of Bakir with a small *pasangrahan* 19 pauls from Malang. The view from this, over the Indoro Wati range is very fine, the highest part of which is here known as Gunung Biru, and just peeping from behind it is the Gunung Anjasmoro, where the Kali Konto has its origin. The triple peaked top of Arjuno has now again come within the range of our view, and is seen thrusting its lofty head through the clouds in the North East. The due North line crosses the range of

Indoro Wati a little to the westward of Gunong Biru. Soon after leaving Bakir the road has to cross a very deep dell, the descent into which though zigzagged on the face of the hill, is so steep that it is with difficulty you can maintain your seat in the saddle, which as cruppers are not in fashion, has a constant tendency to slip forward on the neck of the unfortunate horse; this however, has its revenge by a mere malicious bob of the head, when the rider inevitably rolls in the dust before it. Emerging from this dell you gradually find yourself getting into a different sort of country, an undulating upland plateau, without trees or brushwood, but covered with the long allang allang grass. The morning air was still bracing and pleasant though the sun had already risen high in the heavens, and as we were unprotected by any shelter, the view upon the surrounding mountain was clear and open. These grass lands abound in deer and it is here that the native chiefs practise their great sport of hunting them down on horse back. The horses are trained to the chase and are said to display a great deal of emulation and zeal; the rider is nearly naked and seated on the bare back without any saddle, armed with a spear or Klewang the object is to gallop up with the running deer and so despatch them. These grass lands are known by the name of Gunung Agaron and are about the 15 and 16 pauls from Malang. The eastern brow of this plateau forms the boundary between the Widonship of Antang and Batu, and where this road leaves it, is called Rajah Wëssi. Another steep descent is now experienced into the lower country, winding round the precipitous sides of a mountain ravine for about $\frac{3}{4}$ of a paul, at the foot you find the post No. 14, and turning off the road to the right, at the distance of a few hundred yards, you reach the hot well of Sanggaretti. This is close under the bank of steep hills which further back rise up into the lofty Kawi. Iron oxide appears to be entangled amongst these hot waters, as well as in in such as are cold, and oose from the surrounding hills, presenting a red and scummy appearance. A bambu thatch shed, divided into compartments, covers a square bath dug out of the ground, and at the same time affords separate rooms for dressing, but there is no accommodation for a patient taking up this abode. Outside of the shed is the main and original well, over the spring of which a small Hindu temple has been erected, now of course in ruins. It has been originally 8 or 10 feet high, without any interior cell, but bearing images in niches, traces whereof still remain, and the most perfect of which are placed on the edges of the

present bath in the shed. The whole is composed of squared and hewn trachyte rock. At the back, or west side of this temple, is a square well or cistern of about 2 feet each way; but which however does not now contain either the main spring or hottest water; this is found in a hole broken open at the north side and is led away by a duct under ground to the bath in the shed. Inserting a Fahrenheit's thermometer into the spot where the water was bubbling up the strongest, it indicated 112° and the same temperature was observed where the water enters the bath. The taste of the water is by no means nauseous but rather insipid, somewhat resembling chicken broth. The little temple has originally stood on a terrace, from which the water was poured through stone spouts into a basin on the South. This is now entirely dilapidated, but a little water still runs through the spouts, forming the only place where the natives can bathe. The ends of the stone spouts project into the basin, and appear to have been originally formed to present heads and mouths pouring out the fluid. The spirit of Hinduism must have been strongly rooted among a people who employed it to consecrate and recommend a sanitary spring issuing naturally from the earth, and shows that the well has attracted attention from a very early date. Its properties now a days do not appear to be much appreciated or perhaps properly understood. Invalids, with a variety of complaints, frequently visit it, with apparently small benefit. The change to invalids coming from the sea coast, from a hot to a cool and healthy climate, perhaps does more good than a blind or injudicious use of the water can afford. There is no accommodation for dwelling at the well; this must be sought at Batu, two pauls nearer Malang, the seat of a government coffee establishment. At this place we soon after arrived and tarried a while to breakfast and see the sights. The chief of these is the coffee curing establishment of M. Van Vloten, in the method practised in the West Indies. The works are extensive and situated on a rising ground with a copious supply of running water, which, in an undertaking of this kind, is indispensable both as a moving power, and a means of soaking the beans after the pulp has been taken off. The machinery has stood here some 10 or 12 years, and is very defective and rude, but still, with patching, is made to get through its work. The drying platforms, or barbiques as they are called in the West Indies, are extensive and commodious, being oblong terraces of plaster work, over which a thatched roof, travelling on wheels, can be run or withdrawn according to

the state of the weather or at night time, without incurring the labour and expense of gathering up the beans. Three noble stores, of immense length in a great measure encompass the other works; they are composed of two floors so as not to pile up the coffee in too great a mass, and afford the means of conveniently ventilating and finally curing the coffee previous to the parchment husk being ground off. The contractor has nothing to do with the planting of the coffee; this is done by the native population under the superintendence of government officials, as is the case every where else. The fresh plucked berries are brought to the mill, and for every six measures so received, one of clean marketable coffee must, at least, be returned to government. This is a roomy calculation, but any overplus of coffee must also be sent to the government store. For this operation of curing and drying the contractor is paid, I believe about $f2\frac{1}{2}$ copper per picul clean coffee. He works out about $12^0 14$ thousand piculs. The coffee cultivation on the adjacent hills and plains makes Batu a rather important place. Here are stationed a Widono or native district chief, a European Controleur, and a store keeper, in addition to the coffee contractor. There is a commodious Pasangrahan, in the garden of which we again found a collection of Hindu antiquities. These appear to relate to the worship of Siwa, two representing Maha Dewa himself. One is about 4 feet in height, of which the forehead and upper part of the face have been knocked off, leaving, however, the chin, beard and mustachios. A single string of simple round beads hangs from his neck; in the left hand is a goglet of water and in the right a small rosary. The other has lost his head, but holds a trisula in one hand. There are also two Braminy Bulls, a Ganesa, two Doorgas, both without heads, but with eight arms and full breasts, besides a small Hindu figure squatting down, with an expanded flower in either hand. Two small gorgons heads complete the list of antiquities here, but elsewhere we observed that a Lingga which is also connected with Siwa's worship, had been put to the profane use of squirting water into a small tank, into the wall of which it was built, with an hydraulic pipe adapted.

(To be Continued.)

MISCELLANEOUS.

AGRICULTURE OF SINGAPORE.

Singapore situated within little more than a degree of the Equator and without any tract of elevated land has a remarkable equality of climate and seasons. We feel but in a moderate degree the influence of the N. E. and S. W. Monsoons, and we have a mild rainy season of short duration in the commencement of the former, lasting from October to December. These changes however have little influence upon the vegetable creation, the plants are green throughout the year, and there is a perpetual succession of fruits and flowers. Thus every period of the year is suited for agricultural operations and they can be commenced and conducted in all. The climate at the same time is totally free from storms, hurricanes, or even violent gusts of wind, calculated to impede or overthrow the labors of the husbandman. Neither are those labors nor the personal safety of the cultivator likely to be endangered by the depredations of wild and ferocious animals; for the Tiger and Elephant, so pernicious to agriculture on Sumatra and the Malayan Continent, do not exist in Singapore or any other of the small islands, and the wild boar, another formidable depredator, is few in number. Hitherto at least these regions have to the best of our knowledge been free from the wide spreading depredations of those hosts of insects, such as the Locust, the Palmerworm, Hessianfly, &c. which devastated the plains of central Asia and America, taxing the labors of the husbandman to an inconceivable extent.

The soil of Singapore reposes upon a sand stone of old formation in which is found extensive beds of clay iron ore. The surface of the island consists for the most part of low hills from 100 to 150 feet in height. In a few situations on the coast there are long narrow plains; the soil of the latter is invariably sandy and sterile, fit only for the growth of weeds and tall trees. On the hills the soil is composed of the *deluvium* of the sand stone and clay iron ore, and its varieties depend upon the proportions in which these ingredients enter into its composition. On the summits of the hills the soil is commonly scanty, but on the sides, slopes and narrow valleys below, deep and abundant. There are no rich alluvial tracts in the island, for a sufficient reason that there are no considerable rivers calculated to give origin to them.

These brief notices of the soil and climate lead us to a consideration of those articles of husbandry which are suited or otherwise to the growth of the island. In the first place it must be obvious that the absence of extensive alluvial plains and of a command of water to irrigate them renders the island totally unfit for the growth of rice, a commodity which can never be cheaply brought to market except where those advantages exist. We may venture to assert that the soil of Singapore is equally unsuited for the production of Coffee. To afford this article cheaply and at the

same time of a good quality, a rich black mould and a tract of country elevated if near the Equator to at least one thousand feet above the level of the sea, appear to be indispensable. The Coffee of Arabia is not produced in the sandy deserts of that country but in rich valleys and among the mountains. It is only the most fertile countries of the Archipelago, Java, Luconia, and the mountain districts of favored parts of Sumatra, which have hitherto afforded this commodity.

Cotton, Sugar-cane, Indigo, the Cocoa, Mulberry and Tobacco, every one of which require a strong rich soil, are eminently ill-suited to the poor red soil of the hills of Singapore. The same sentence may be pronounced on the growth of the finer spices, the Clove and Nutmeg, which, whatever opinion sanguine speculators may have entertained to the contrary, it is now pretty generally acknowledged cannot be raised in cheapness and perfection suited to the demands of a free market except in the spice islands themselves.

The soil and climate of Singapore is perfectly adapted to the production of all the tropical fruits—the Cocoanut, the Orange of many species and varieties, the Mangoe which is found wild in the forest, the Mangustin, Durian, Duku and Pine-apple. It is rather climate than soil that is required by such productions as these, and it appears singular, and a fact yet unexplained in vegetable physiology, that whilst the poorest wilds are sufficient for the growth not only of the profuse and luxuriant plants which afford the rich fruits in question, but also for that of the most stupendous trees of the forest, the richest are indispensable to the successful culture of the lowly plants which afford the principal necessities of life.

Besides fruits the soil of Singapore is perfectly well adapted to the growth of all those green esculent plants and farinaceous roots which are natural to a tropical climate—such as different varieties of cucumber, the egg plant, different pulses, the yam, the batata and many others. The common garden pea of Europe may probably be raised with care, but it will be in vain that we attempt the culture of cabbage, cauliflower, artichoke or potatoe. These are not raised in Java, or Cubu or St. Domingo or Jamaica at a less elevation than 3,000 feet above the level of the sea, and in our situation so much nearer the Equator would probably require 4,000. We are of opinion that the only staple articles which the soil of Singapore is capable of raising with advantage are Gambier or Terra Japonica and Black Pepper.

CRAWFURD.

The above paper appeared in the *Singapore Chronicle* twenty-five years ago. In the main we fear that its condemnation of the soil of Singapore is too well founded. The sagacity of the writer has been proved by the fact that several of the productions for which he declares Singapore unsuited have been tried and failed. Or if the failure has not been decided the results have been so little

satisfactory that there appears no probability of the experiments being repeated. It would be instructive if those planters who have tried Coffee, Cotton, and Cacao would place on record the results of their attempts to introduce the cultivation of these plants. Of Sugar cane we say nothing because one of the only two plantations that have ever been formed still exists, and we see a new chimney rising in Pyah Lebar.

The soil is much more varied than it was supposed to be in former years, and so far from consisting entirely of decomposed sandstone and clay iron ore, contains a plutonic tract of about 60 square miles, and another in which shales predominate (ante Vol. II p. 100, 140 &c.). The following is extracted from a paper on the Geology of the Straits of Singapore presented by us to the Geological Society:

Although the soils of the district have not the fertility of the volcanic and calcareous soils which occur in many parts of the Indian Archipelago, they are covered with an indigenous vegetation of great vigour and luxuriance, supporting numbers of animals of different species. The hills of plutonic rock support dense and continuous forests composed of more than 200 species of trees*, many of which are of great size. So long as the iron is not in such excess as to recompose the clay into stone or render it hard, those soils which contain most iron are most fertile. The purely or highly felspathic are the worst. But even felspathic soils, when intermixed with a sufficient proportion of quartz, are, in this climate, capable of producing an abundant vegetation. Although it is obvious to every observer that there is no kind of soil in the district for which nature has not provided plants that flourish luxuriantly in it, yet it must not be hastily concluded, as some have done, that this exuberant vegetation indicates a general fertility in the soil. It is found, on the contrary, when the native plants are destroyed and the land is employed for agriculture, that there are very few soils in which cultivated plants not indigenous to the region, but whose climatic range embraces it, will flourish spontaneously. While the cocoanut, betelnut, sago, gomuti and the numerous Malayan fruits succeed well with little care, the nutmeg and clove are stunted and almost unproductive, unless constantly cultivated and highly manured. Yet the climate is perfectly adapted for them. Place them in the rare spots where there is naturally a fertile soil, or create one artificially, and the produce is equal to that of trees in the Molucca plantations. With respect to indigenous plants, gambier, pepper and all the fruit trees flourish on the plutonic hills, provided they are not too deficient in iron and quartz. The hills of violet shale, where they are not too sandy, are equal to the best plutonic soils: those namely in which there is a sufficient proportion of hard granules to render them friable, and sufficient iron to render them highly absorptive of water without becoming

* My list contains at present 217 trees but is not complete.

plastic. Of all the sedimentary soils the sandstone and very arenaceous shales furnish the worst. Of the alluvial soils, the sand, particularly when it contains a mixture of vegetable matter or triturated shells, is the proper soil of the cocoanut, and the vegetable mud of the sago. When the country has been better and longer drained and cultivated, the latter soil will become a rich mould. At present it is every where too wet and sour to make a fertile soil. Rice is grown on some patches of it. The bluish sea mud contains good ingredients, but clay is in excess, and the animal matter in it appears to assist in rendering it hard and untractable when it is not saturated with water. Even for such a soil nature has provided plants useful to man, for the betelnut and some of the indigenous fruit trees grow well in it with little cultivation. Although there are cultivated plants adapted to every kind of soil in the district, and it has indigenous tribes who can live exclusively on its yams, sago, fish and wild animals, it is incapable of feeding a population of the more civilised races, and the latter must always be dependent on other countries for the great necessary of life—rice.

The rocks which are used for economical purposes are not numerous. The only edible one is the fine clay called *ampo*, which is made into thin cakes, smoked and kept for use. The iron gravel and rocks have, during late years, been extensively used for metalling the roads in and near town. They soon acquire a compact, and hard smooth surface. The plutonic rocks and the indurated sandstones and conglomerates are used for the foundations of houses. Lateritic stones are sometimes used by the Malays as pedestals for the posts on which their small houses rest. Granite is used for steps, mile stones, tomb stones, &c. Of the blueish alluvial clays the bricks and tiles are made of which the town of Singapore is built. The fine kaolin which abounds has been found the best adapted of any in India for the manufacture of porcelain, but no manufactory has ever been established.*

* See Dr O'Shaughnessy's Report of experiments made by him for Government. The following is an extract. "*Singapore Clays*: By far the best clay I have met, is that given me by Captain Halsted, and which he procured at Singapore.

It occurs as I am informed, close to the beach, and the Messrs Lackersteen of Calcutta inform me, it can be brought to Calcutta for six annas the maund.

This clay is found in thick strata. The detached masses are of a pink tint, broken into they contain nodules of perfectly white earth. They absorb water eagerly, and yield an exceedingly soft, ductile, and tenacious paste.

On firing, this clay is found to resist a temperature sufficient to fuse English blue pots. The vessels made from the coarsest parts of this clay are strong, hard, of a beautiful and rich crimson colour. The *picked* clay gives a snow-white biscuit; unpicked and simply worked up as it is dug, it gives a light yellow stoneware of the very best kind, as far as density, hardness, strength, lightness, and colour are concerned."

ESSAY TOWARDS AN ACCOUNT OF SULU.*

CHAP. I.

Climate.

THE tropical regions, in general, have no other distinction of seasons, than *rainy* and *fair weather*. But there arises some variety from the situation of places, and from the soil: The ocean, which *Solomon* calls the fountain of rain, regulates in great measure their seasons; more perhaps even than the *sun*, which is commonly reckoned the cause of this vicissitude.

Sulu is variable in its climate, two years differing very much, though a dry season is generally succeeded by a wet one, and this again followed by its opposite: If, from the experience of two seasons, I may be allowed to judge, it seems the *dry* is the least warm: perhaps from the influence the saltpetre, which is abundant on the island, has in cooling the atmosphere in the dry season, when the exhalations are the strongest, and it is possible the saline particles, being diluted by the rains, have a less sensible effect; however, this conjecture is only proposed for future observation.

As the different parts of this empire are very different in point of situation, they of consequence vary in climate and seasons: When I mention Sulu, I mean the *island only*; and here I may repeat, that the seasons being variable, some can scarce obtain an adequate enoemium, whilst others are not superior to what is common in the same latitude: however, their rains are not, as the monsoon weather in *India*, incessant for days, but are hard showers, generally attended with violent blasts of wind of short continuance. The air is, in general, at other times clear, the tops of the hills being remarkably free from vapours,† and the nights commonly cool. The rains are chiefly from June to the end of October, though in the two first months the showers are less frequent, and in the last most common, the latter part of August, and beginning of September seem to be most liable to squalls. The north winds bring fair weather and sunshine. At the termination of them are frequent calms, which is the season for fishing pearls.

The seasons, along the West Coasts of *Kini-Ballu*, and *Palawan*, are consonant to Sulu; rains attending the westerly winds, and fair weather the N. E. But the East Coasts of Borneo, from *Paitan* to *Tirun* are directly the reverse, the N. E. bring ing rainy, and the S. W. fair weather. These circumstances, so contradictory to the solar system of seasons, are entirely con-

* This essay is extracted from Dalrymple's Oriental Repertory, a work which has long been out of print, and, from the limited number of copies that were printed, must be rarely met with. This, with the interest which at present attaches to Sulu, has induced us to reprint the whole of Dalrymple's account which contains much that is curious as well as much that has a practical value.—ED.

† I have distinctly seen, by *moonlight*, the *mountains of Sulu* when above 10 leagues distant.

sonant to the true origin of the tropical rains; which are caused by the wind blowing constantly over a large surface of fluid, and bearing with it clouds of exhalation, which dissipate in heavy rains.

In all places within the tropics, the land seems to have an influence in directing the winds, but not with that uniformity which systematics pretend; however, in general, there is a breeze from the land in the night, and from the sea in the day; the night breeze is commonly a cold penetrating elastic air, and that from the sea a cool humid one. The sea is little different any where, but the land communicates, by its exhalations, its nature to the breeze: *Mangidara*, for example, is a very cold country, disagreeable in the highest degree to the constitution of the Sulus; this frigidity is ascribed to the gold mines, which are in this country equally abundant and pure: The natives, indeed, to the same cause refer all remarkable coldness in rivers or fountains, with how much justice I leave to be determined by the naturalist.

Thunder and lightning are common here, as in other countries, but not remarkably frequent or excessive; indeed I have not heard of any accident from them.

In most places of the *East Indies*, they have storms in a certain degree at the change of the monsoons, and, it frequently happens, these are very violent. Although the intermediate seasons are generally exempt from tempests, they sometimes, though very rarely, happen at other times than the change of the monsoon. The *China seas*, and other places adjacent to the invariable trade-winds, are liable to hurricanes, or tyfoons, which arise from the struggle between these trade-winds and the monsoon, chiefly at the springs.

At Sulu, there are no storms at the shifting of the winds, and very seldom at any other time. The end of the monsoon is attended with a fresh westerly wind, for some days, which they foretell by the situation of a constellation, called by them, from a supposed resemblance, the coco tree: This generally occasions a storm amongst the *northern Philipinas*, which the *Spaniards* term *Bagio*, and some years ago it was felt at Sulu, though not violently, as at *Basilan*, where it was very severe: this, and one more, are the only storms the oldest persons recollect at Sulu, the other happened about the termination of the N. E. winds, and was excessively violent: many days it rained without intermission, and not one coco-nut-tree was left standing on the whole island. The hills were swept clear of their woods: one island overwhelmed entirely, and much devastation made in many places. It seems to have been attended with an earthquake, as *Temontangis* is reported to have trembled.

Although Sulu itself be exempt from storms, in common, it is not to be supposed all parts of the empire are: Those places, open to the sea, have little difference, in this respect, from others in parallel situations: Sulu and the adjacent islands, situated be-

tween Borneo and the *Archipelago* of the *Philippinas*, derive from this situation, the benefit of an exemption from tempests, and have from thence also another circumstance, attended with conveniences, though with concomitant disadvantages: This is, that the winds are not so fixed and steady, as in places where there is an open sea: But, though this facilitates the passage one way, it retards it the other; as the consequence of this situation is, that calms and light winds are very frequent: Though, as the banks are of great extent, and the tides very rapid, upon the whole it appears to me, that Sulu has a benefit in these respects, above most other places between the *tropics*.

It is common to have constant land and sea breezes in the fair season, but during the rains they are in few places so frequent; I have however been assured, that the coasts of Borneo, from *Unsang* towards *Paitan*, have constantly near shore a northerly wind in the day, and a southerly one in the night, at all seasons.

Perhaps the conclusion of this chapter, which are signs of weather and land, communicated by *Bahatol*, the old Sulu, may expose me to ridicule. However, few are so ignorant of human nature, as not to know that experience exceeds the deepest reasoning, and that an illiterate fisherman shall often be found, better acquainted with the signs which indicate changes of the weather, than the most acute philosopher with his barometer. *Bahatol* informed me, that these signs have passed down from father to son, through many successions, and that his long experience has warranted their veracity: However, I only present them, to be confirmed, or refuted, by observation and experience.

These signs are chiefly taken from lightning.

When lightning explodes upwards, it shews there will soon be wind, though it does not denote a storm.

A storm is predicted, by a woo-ing sound in the water.

Tremulous lightning very high, is a sign of rain.

The same not so high, indicates a hill.

When the lightning is red and fiery, it shews the hill to be rocky.

When yellow, it is a sign the hill is earth.

Low flashes upon the surface of the water, denote a shoal under water.

A shoal above water, has an atmosphere hanging over it, which appears like an island.

Low long lightning, upon the surface, shews an island with trees; and when an island, or hill, is high at one end, and low at the other, the lightning will be in an inclining line like the hill.

I had almost forgot to take notice of a phenomenon, well worthy a philosophical disquisition; I presume not to determine, whether it arises from a refraction in the air? from the tide? or from what other cause? it is, that whilst at anchor near *Abai*, the same lands were sometimes visible from deck, which could, at other times, only be seen from the main top, elevated about 40 feet from the surface:

this circumstance, which evinces the visible horizon to change its distance, makes all observations of latitude, taken by means thereof, uncertain; and perhaps, if it be owing to a refractive power in the air, land observations may be considerably affected thereby. Though I mention this one instance only, similar have occurred at other times.

Earthquakes are not uncommon, but not very violent, there being no instance of any mischief, done by them, at Sulu.

CHAP. II.

Geographical description of Sulu.

The limits of Sulu, eastward and northward, are the *Philipinas*: westward, Borneo-Proprietary: and southward, *Idanea*, or the inland of Borneo.

It is composed of an *Archipelago*, of which the *three* most considerable *islands* are Sulu, *Basilan* and *Taritan*; of many districts on the East, North, and North West Coasts of Borneo; and of the better half of Palawan, or *Paragoa*, and of *Dumaran*.

I propose to treat first of the *islands*, which I shall, for the greater precision, do under three heads, Sulu, *Basilan*, and *Taritan*.

SECT. I. SULU.

Sulu comprehends the Sulu *Islands*, *Tapul Isles*, *Paliangan Isles*, and *Pangutaran Islands*.

Under the denomination of the Sulu *Islands*, I consider Sulu, *Nosa Salé*, *Tulean*, *Bankungan*, *Panganak*, *Kuhangan*, *Tulyan*, *Bulé Kutin*, *Kapual*, *Beetinan*, *Saang*, *Dong Dong*, *Tambulean*, *Pata*, *Dammohan*, *Lumbian*, *Patean*, and *Teumabal*.

Sulu itself is divided into several chief-ships, all subordinate to the capital, but, having their own officers for the common jurisdiction in their several districts; the chiefs of these districts are of different ranks, being nominated *Panglima*, *Maharaja Palawan*, and *Orankys*. The districts are eight in number.*

<i>Luc</i> , which comprehends the country of <i>Bual</i> and <i>Pateebulan</i> , under a <i>Panglima</i> .	
<i>Puddul</i> , <i>Dahow</i> , <i>Maharaja Palawan</i> .	
<i>Panchual</i> , or <i>Panchuar</i> <i>Temontangis</i> , Westward	
<i>Geetong</i> , <i>Secnomaan</i>	} under <i>Orankys</i>
<i>Tandu-Annan</i> , <i>Tandu</i>	
<i>Mymbun</i> , The district adjacent to that town	
<i>Pugpug</i> , The district between <i>Bud Dato</i> and the sea on the other side.	
<i>Parang</i> , <i>Tuky</i> <i>Parcan Batang</i> .	

Luc is the most considerable for number of people: It is not to be supposed the limits of each district are determined with sufficient precision to permit a minute geographical disquisition, but what is above mentioned will be enough to point out their situations.

* The following divisions do not correspond with those of the map, but the list is to be preferred to the map.

There are, perhaps, few places in the world more agreeable than Sulu, particularly in the arrangement and figure of the hills, some whereof are covered with stately woods, others with clear grass land, delightfully verdant, except in spots, where it has been burnt for cultivation, and which, from the variety it affords, conveys more the idea of pleasure than of barrenness: Many of the hills are cultivated almost to their summits, and these fields, surrounded with clumps of wood-land, afford a delightful prospect to the eye, which only wants country-seats, churches, and such decorations of a civilized people, to form a complete landscape, as the huts which appear scattered over the country, are but a poor substitute for the want of better habitations: The coast is generally woody, so that it is no small pleasure to the eye, as it were, to steal through this barrier into the cultivated scenes.

Temontangis, the most remarkable of the hills, is a single mountain, peaked at top, it is situated to the S. W. of the fort, and is detached from all the other hills: To the southward of it is the mountain *Tuky*, less in altitude, but more beautiful in appearance, being chiefly cleared and extremely verdant, it has a remarkable peak near the summit, detached and apparently steep on every side, intended, as it were, by nature for an observatory; it is said the top of the mountain forms itself into a hollow plain, with a gentle declivity inwards to a pit, which has lately fallen in, and is without bottom; here the natives have built a town, and, indeed, it appears, few more agreeable situations are to be found.

To the westward, between *Tuky* and *Temontangis*, there is a peaked hummock named *Heegang-an*, not high though woody.

To the eastward of *Tuky* there are several hills; the most remarkable is *Taleepow*, which in beauty of appearance surpasses all the others; it is of a good height, though not equal to many others on the island, but the southern side of it is half wood land, with savannahs, and the other half cleared, with a streak of wood, running down in a serpentine line, from top to bottom: This is now almost the only place on the island where there are elephants, the destruction they make in the plantations, having induced the natives to kill all they can meet with, and for this purpose they have instituted a grand-hunting-match, when their harvest is over.

Dahow, is a pretty high round hill, almost in the center of the *Western Peninsula*; on the top of it is a large plain, where a town is built, and the mountain being steep, there are steps cut for the facility of ascending it: this situation very naturally influences the inhabitants to theft, as they have a secure retreat, in their mountain, for the cattle they plunder from their more open, not more honest, neighbours.

Between *Dahow* and *Temontangis*, though near the fort, are several hills, very remarkable in the prospect they form, as expressed in the view from the bay; one of the two flat ones, named *Dato*, was the retreat of the chief Sulus during the *Spanish* inva-

sion, when they established some forts on the island. The view also represents the other hills to *Seenomaan* better, than many words could describe them.

Dakola is a small woody hill, detached from all others, and situated near the bottom of *Bual Bay*. *Urut*, *Tandu*, and the chain between them to the southward, are chiefly remarkable for the beauty and diversity of prospect.

The country situated between the various hills, is not a dead flat; but waved plains, cultivated in many places, verdant in all; well watered with streams, which disembody themselves on every side, and well adapted for the produce of sugar-canes, grain, &c. The soil is in general a stiff loomy black, or red, mould, though from the fort to *Temontangis* it is very shallow, and scarcely strewed over the iron stones, though even this part yields good pasture, and woods of teak, though generally stinted in their growth, by burning the land, which is done here to entice the deer, by the young herbage that shoots up from the ashes. There are besides many reeds, which would form excellent thatch for houses.

The husbandry of Sulu is very far from being adequate to the natural advantages; for want of a little assistance to nature, it often happens that their crops fail them, in a dry season; whereas, were they to use the least degree of industry, to collect and preserve their water, they would never be in danger of famine, but in wet seasons would have crops superior to now, and as good in dry ones, whereas now it sometimes happens a field is not worth reaping.

The aptness of the soil to run into grass, is also another inconvenience they have to struggle with, for if they cultivate the same ground, two or three years following, the grass choaks the paddy. This prevents them from grubbing up the roots of the trees, and the land having been burnt, the branches are left bare without leaves, which has the appearance of barrenness at a distance.

There are many towns on the sea-shore, though inland they are chiefly in straggling huts: To the eastward of Sulu, on the north coast, *Patekul*,* *Heegassen* and *Tagleebee*; on *Bual Bay*, *Bunbun*, *Su-ok*, and some other towns, *Bual*, *Sapang*, *Karang-Karang*; on the S. E. *Tandu*; on *Saang-Bay*, *Partebulam*; *Maymbum* on the south; *Parang*, &c., on the west; and on the N. W., *Senogaan*, *Kan-jea*, *Bato-bato*, and *Matanda*.

Nosa Salé is a small low woody island, close to the point of *Parang Bay*.

Tulean, a small, though pretty high, rocky island, in shape like a slipper. There are here many painted snakes, which crawl into their vessels that lye a night at this island.

Bankungan is pretty high and covered with wood, but appears very rocky and barren. It has a fishing hut or two on the south side.

* *Patekul* is the name of a hill, the name of the town is *Kow-nyan*.

Panganak is merely a rock covered with shrubs.

Kuhangan has no inhabitants; it appears like two islands, there being a low isthmus in the middle: It is very woody.

Tulyan is high land, the hills form an amphitheatre with a large valley in the middle, to which two or three breaks between the hills, form a passage; particularly on the south part where there is a large plain, between the *Peak Hill* and the *Green Ridge*, covered with woods: The island is not at present inhabited, but formerly it was, and had then many cattle, cocoanut, and other fruit trees, which were destroyed by the *Spaniards*, in their last expedition against Sulu.

The woods are not in general large towards the shore; they are of various kinds, and many of them good timber; the *Alexandrian Laurel* is common enough, and by much the largest I have seen; one of them, growing on the shore, being above two fathom in circumference: There are several *put trees* on the island: the leaves are dark green, pretty large and high ribbed; the dammer is in general as white as milk; and has the consistency, and somewhat of the smell of turpentine, it seems to oose entirely from the bark.

The shore is, in some places, so steep that a large ship may careen by it, but the island is but ill supplied with water: The bay is very commodious and secure for a few ships.

Bulekutin, which forms, with part of Sulu, a harbour for small vessels, is a low woody island without water.

Kapual is inhabited, and produces considerable quantities of paddy; it is pretty high land, with woods of very large fine timber, and has plenty of deer.

Bateenan is not so high as *Kapual*, but little different from it otherwise.

Saang are several small rocky keys, which form a cove with the south coast of Sulu, but whether there be depth within, or any passage through them, is uncertain.

Dong-dong is a long low woody island, at the S. E. end are several rocks above water.

Tambulean is a small low woody island, which seems to have a reef all round it.

Pata is a pretty large inhabited island, off *Saang-Bay*: The western part is high land; the east low. It has a good stock of cattle, and, it is said, one very old elephant: There are 3 pits of very white saltpetre earth, which yields $\frac{1}{8}$ of petre.

Dammuhan is another small low woody island, close to the north end of *Pata*.

Lambuean, similar to the former, and close to it.

Patean is tolerably high, abounds with water, and is reported to have a cove, with depth of water for any ship, on the east side, which fronts the coast of Sulu, and is therefore land-locked.

Teumabal is a low woody island.

The *Tapul Isles* comprehend, north and south *Kabing-aan*, *Taluk*, *Tapul*, *Buleepong-pong*, *Suladdé*, *Tara*, *Seessee*, *Nanka*, *Lamenusa*, *Parang-parangan*, *Seebeehing*, *Karang China*, *Manubol*, *Lapak*, *Pandamme*, and *Seerlum*.

The *Kabing-aan's* are two low woody islands, with a chain of rocks, like haycocks, running from one to the other.

Taluk is close to them and is similar: all three are remarkable for plenty of fish.

Tapul is a high island, abounding with fresh water, small cattle, goats, and yams, being cultivated to the very top: The natives, derived from the inland of Sulu, retain some peculiar laws and customs, though not very worthy to be imitated.

Buleepongpong is a high island also, but appears more woody than *Tapul*.

Suladdee is a low woody island, without fresh water.

Tara is nothing more than a high rock, with a few shrubs.

Seessee is a high island, clothed with woods, but cleared in many places; it is inhabited, and well supplied with fresh water. It yields many small cowries, and small bait, named *Seessee*.

Nanka is a small hummock, but pretty high and woody.

Lameenusa has a beach of very bright white sand, but *within* seems entirely covered with wood, it is not high, though above the level of the islands to the southward.

Parangparangan, *Seebeehing* and *Karang China*, are all low and woody, with a sandy beach: It is very difficult, in passing them, to determine their limits or number; as great part appears a low sandy ridge with tufts of trees here and there, which look like so many islands. *Parangparangan* is very low, with some spots of bright white sand, which look like breakers; between it and *Lameenusa*, there is a dry sand bank, named *Nunoan*. These islands form a harbour with *Seessee*, but it is reported to be shallow.

Manubol is a small low woody island.

Lapak is high, and clothed with woods, it appears, with *Seessee*, to form good shelter from the S.W. and N.E. winds, and is barred from the south by shoals, which join the two islands.

Pandamme is described to be a small sand, with a few bushes, close to *Lapak*.

And *Seerlum*, a small island, adjacent to it.

The *Pangutaran Isles* are, *Pangutaran*, *Ubean*, *Teekul*, *Usad-da*, *Kuneelaan*, *Bas-bas*, *Maleputbas*, *Pandukan*, *Kulassian*, *Bubuan*, *Tubigan*, *Patakunan*, *Teomabal*, *Taweetavee*, *Lahat-lahat*, *Kaangan*, *Palkeangan*, *Tong-Tong*, *Marungas*, *Suhokon-Bolod*, *Hegad*, and *Meenis*.

Pangutaran, formerly settled by the Spaniards, who left a breed of large hogs, is about 10° long, and at the south end where broadest, near half that in breadth, it is destitute not only of harbours, but even of shelter for ships, it being steep, to a very small

distance, on every side. It is very well inhabited, by slaves and vassals of the *Sultan, Oranky Mallick, &c.* The chief town, named *Maglocob*, is situated on the east side, a little in from the shore, though there are some houses near the beach. There are several white coral and sand banks off this part of the island, with small channels through them, which, at high water, admit large boats into the shallow *lagunes*, formed by these banks and the shore, which are secure from all weather. The island is an entire bed of coral-rock, with scarce any appearance of soil upon it, and every where so shallow, that the people who die here are removed to some of the other islands to be interred. However, although there be so little soil, there are plenty of fine timber trees, which are in general very lofty, and have many doves and other birds on them. The island abounds with cocoanut trees, which are very tall and fruitful, this is an infinite benefit to the inhabitants, as the island is destitute of good fresh water: In the dry season it is very salt, and is not to be drank by any but themselves, though they, it is pretended, like it better than other water; but, in the rainy season it is only blackish. Notwithstanding this deficiency of water, and want of soil, this island has plenty of cattle, which, though small, are very fat; they have also many fine goats, and plenty of fowls. The chief person of *Maglocob's* house was built, according to the eastern stile, on posts, but for this purpose, instead of sinking them in the ground, which the nature of the country rendered difficult and unstable, he had made choice of a spot, where four trees grew at the distance required, and, having lopped off their heads, upon them his palace was built, and perhaps something of this kind may have given rise to the reports of people living in trees.

A little to the southward of *Maglocob* is *Bayt-bayt*, consisting only of two or three houses, the most remarkable thing here, is a cocoanut growing within a large tree, the trunk being entirely concealed, till the branches of the tree spread.

Ubeean is the largest of the islands, on the south side of the *Strait*, which divides them from *Pangutaran*; it is reported to be divided by several creeks, and about the middle has one tree, distinguishably higher than the rest.

Teekul is the highest of these islands, but is without any hill; it is small and almost round; the east end is lowest.

Usadda is also low and woody; the trees are highest in the middle, both ends being lower, and looking, at a distance, like other islands behind it; the eastside, particularly, is very smooth and low.

Kuneelaan and *Bas-bas*, are both low woody isles.

Maleepothas is also low and woody, it has shoals all round, which extend above *two miles* to the N. westward.

Panduhan, which is low and woody, is inhabited, and is reported to have a salt-water lake in the interior part: Off the south points

are two spits of shoal water, and between them a bank with tolerable anchorage, within $\frac{1}{4}$ of a mile from the shore. The north end is shoal a good way, for at least $\frac{1}{2}$ a mile, there being only 2 fathoms, and for a little distance from the N. W. point of *Panduhan*, it is dry.

Kulassian is a low woody island, destitute of water and inhabitants.

Tubigan is a small woody island, with a little rising in the middle; it has fresh water, and it only, of all the islands from Sulu to *Pangutaran*.

Teomabal is low and woody.

Patakunan is also low and woody: Near the west and on the north side, there is a large, and, to appearance, deep *Lagune*; there are several sand banks off the north coast, which are high out of the water, particularly near the east end of the island, and form several secure coves for boats. On the banks are so many sea fowl, that 14 were killed at one shot.

Bubuan has a round hummock on the north point, and in the interior part a salt-water lake; it is very woody: There are some people on it.

Taweetanee is a small low woody island.

Lahat-lahat, similar to it, is adjacent to the east part of *Palleeangan*, as *Kaangan*, still smaller, is to the north.

Palleeangan, is a low woody island, the part fronting the S. W. is a long straight sandy beach; in the middle of the island is a salt-water lake; off the western part is a little island, named *Tongtong*, separated from *Palleeangan* by a narrow channel, passable for boats at high water.

Marungas is pretty high and rocky, except the eastern part, which is low and woody; there are some fruit plantations on it.

Sohokon-Bolod, is remarkable for two hills on the south coast; the western and northern part of the island is chiefly low and flooded; which affords a conveniency for making much salt.

Heegad is a low woody island, as is *Meenis*, which is steep, very close to the shore, and then surrounded with shoal water: It is very difficult to land; being almost every where, surrounded with beds of coral, dry at low water.

Almost all these islands have great plenty of turtle.

The following islands ought properly to come under the class of the Sulu *Isles*, but as their description is entirely from *Bahatol's* report, it appeared more eligible to speak of them apart.*

To the S. westward of *Bas-bas*, 4', or 5', is a round island, named *Tubalubuk*, on the southern side ¹ it is without trees.

Between these two islands, is the *Sunken island*, *Apo-Lambu*; within the memory of man, it was above water, but is now, where

* These *islands* I have since seen, but I think it most expedient to omit for the present the observations then made; but I must take notice that the description here given appears to be inaccurate.

shoaleft, 4 fathom under the surface. It had a lake 3 fathoms deep in the middle, without any entrance through the bank of sand, which surrounded it, and was covered with trees: A hard storm overwhelmed the island, the trees, which are all dead, being still visible under water.

Tugbabas is 5' or 6' to the westward of *Tubalubuk*, and is similar to it, having no trees on the southside.

To the westward are a cluster of islands, about 10' distant.

Keenekehan, about the size of *Tugbabas*, covered with trees.

Dockan, a long low island, as is *Laparan*, adjacent to it.

Karaugan, round and somewhat less than *Keenekehan*, and to the east of them.

A rock like *Tulean*, without soundings at half a mile distance, named *Deotobato*.

To the southward of *Tugbabas*, is another cluster of low islands, lying in a circle upon a bank, where they collect baat, or sea-slug, &c. They are named *Dammy*, *Seen-gaan*, and *Dasaan*, *Mammanuk*, *Bambannan*, which has two little islands, named *Lahatlahat*, adjacent to it, *Billangaan*, and *Uwaan*.

Samar Laut contains *Manung-ut*, *Bangao*, *Seemeessa*, *Bang-eeng-é*, *Mamanuk*, *Parul*, *Tongkeel*, *Mamud*, *Bukutoa*, *Belann*, *Haluluu*, *Tapeantana*, *Lanawan*, *Bubuan*, and *Duobolod*.

Manung-ut is a small round Hummock island, and is the westernmost of the *Samar Laut* islands; those to the eastward, in general, are destitute of water, and are chiefly inhabited by *Bajons*, who collect the produce of the adjacent seas, which chiefly consists in pearl-oysters and cowries. They are all low and woody, except *Mamud*, which has a little hill.

Belann and *Bukutoa*, close together, both of good height, the former very much resembling the *Great Sangboy*, or *Hare's-Ear*.

Haluluueu, is of a pretty good height, though no hills.

Tapeantana, *Lanawan* and *Bubuan*, are three hills, the middle the least; the other two exactly of the same height and appearance.

Duabolod, which signifies two hills, are two small high rocky islands, covered with bushes.

SECT. 2. BASEELAN.

Baseelan islands, besides the small isles around *Baseelan*, of which we have not the detail, comprehend *Baseelan*, and *Peelas isles*.

Baseelan, has a range of mountains in the middle, but towards the coast it appears low; the whole seems very woody, and being, but thinly inhabited, its productions are not considerable, or well known: It is said there is massaroong there; grain it yields in plenty, cowries are abundant, but these are the chief productions I have heard of, and the whole island, being destitute of harbours* it is of less consequence than its extent and situation would give room to imagine: I cannot enter into a minute description of the island, and therefore leave it.

The *Peelas islands* comprehend *Peelas*, with several low woody islands adjacent to it, *Balluk-balluk*. The *Great* and *Little Sangboy*, or *Hare's-Ears*, *Teyng-a*, *Kalublub*, and *Dasaan*, with the *Salleelakkit*, and *Peelas Rocks*. All the islands are woody and without fixed inhabitants, being in general, destitute of water.

Peelas is a pretty large island, of good height, and appears to have a good harbour on the south side, but the island is described to be destitute of water. It yields great plenty of cowries.

The north end of *Balluk-balluk* is a pretty high round hill, with low land on the south, the island is without water.

The *Sangboys* are two pretty high woody islands, and are said to have fresh water.

Dasaan is low and very woody, some of the trees are large timber, and ebony is to be found here, as well as in all the neighbouring islands. It produces great plenty of cowries, and some keema.

Kalublub is larger than *Dasaan*, but otherwise much alike.

The *Salleelakkit* are five rocks. The largest, at some distance from the others, is a heap of marble rocks, with a few shrubs and tufts of grass, shooting out of the cliffs. It is the habitation of multitudes of sea-fowl, whose eggs are in great abundance.†

SECT. 3. Taweetawee. 56 ISLANDS.

The *Taweetawee islands* are very numerous, and may be distinguished into two classes. *Taweetawee* and *Sibuto*, some (particularly *Taweetawee* itself) of considerable extent; some of them high, many low, and not a few mere rocks.

Their number, names, and situation, are not well enough described to permit a minute detail, those mentioned to me, are:

Taweetawee, *Seemaloak*, *Cu-adbassang Tattaan*, *Seepyuk*, *Bukutlapees*, *Bangao*, *Nusapapabag*, *T.*, *Sangyseeapo*, *La*, *Samamput*, *Dul*, *beckteebeck*, *Babagsowka*, *Beelattan*, *Basseebulle*, *Panampangan*, *Banarran*, *Mantabuan*, *Latoan*, *Sekubum*, *Bow-ran*, *Kalampapaban* *Kalaeetan*, *Ubeean*, *Tabuan*, *Beentocolan*, *Keenapussan*, *Magpeos*, *Tagao*, *Luran*, *Tankolaluan*, *Tandu Batto*, *Balleunggan*, *Tato*, *Batotapak*, *Nankaan*, *Guleemaan*, *Powmaban*, *Kangteeyan*, *Tambagaan*, *Sigboye Kakataan*, *Parangan*, *Tapaan*, *Maglumba* *Manincolat*, *Babaran*, and *Bubuan*.

The circumstances reported to me of these islands, are to follow: In the interior part of *Taweetawee*, there is a lake named *Lanan Tung-ang*, with an island in the middle, which in one place approaches so near the main, that the roots of a large tree there, hangs over the island, and affords a passage to fugitive slaves, who have fixed themselves on the island. The lake is full of crocodiles.

* This is a mistake, for *Maloza* may be reckoned one.

† There are many other islands in the vicinity of *Pilas* and *Basilan*, besides those named; but I have not thought it expedient, to alter the M.S. by the addition of those, of which I had no knowledge at that time.

There is another lake on the island, of more consequence; it is named *Dungon*, and was for some time the residence of Sultan *Badarodin*, (from thence commonly called Sultan *Dungon*) two rivers fall into the lake, and the coast between them is steep rocky cliffs, the lake is fresh, at low water, and has 8 fathoms. The river leading from it to the sea, has 5, 6, and 7 fathoms. But on the bar, which is of black sand, only $1\frac{1}{2}$ at low water, and about 4 at the height of springs.

Tonsan Dulangdulang adjacent to *Dungon*, has very many large pearl oysters.

The chain of islands on the S. E. side of *Taweetawee* are all low, with an infinite number of shoals between them and *Taweetawee*, through which the channels have 6, 7, and 8 fathoms, but are extremely intricate and so narrow, that the *Chinese junks* used, in some places, to be pushed on, with poles. These gulfs are the most valuable pearl fishery, as accessible at all times, and fish of various kinds are amazingly plentiful, and of great size.

The island *Taweetawee*, has but few people, but abounds with excellent timber.

Samamput has many alligators.

Nusa Pababag is low and uninhabited, it is rocky in the middle, and destitute of water.

Simonor has plenty of manatee.

Tankalulan, is so called from the number of oysters.

Tagao, head island, from a supposed similitude to a man's head.

The names of several of the islands are so inmodest, that it would be improper to shew their nakedness by a translation: The most obscene parts of the human frame, give name to some, from a real or supposed resemblance, and others derive their appellation from accidents the most indecent.

Magpeos is a single mountain.

Luran, a small hill, inhabited.

Sigbye is high land, but destitute of water.

Tambagaun, which is situated between it and *Tamitan'i*, is not very high, but has good water.

Kangtipyan are two small islands, less than *Suladdi*, lying east and west, parallel to each other; the southern has a ledge of rocks on the south side, making a harbour for small vessels.

Bubuan has in the middle a lake, and the river which leads to it is on the N. W. side; the island is about the size of *Tapul*.

Kakataan, about the size of *Minis*, is a low woody island, so infested with musquitoes, that the Sulu's are afraid to go near it.

Maglumba, is a small island which produces bird's nests; there is an entrance at top, but too small to admit a man, the people who go to gather the nests, therefore, dive under water, and pass under the cliffs, where there is a passage into the cave.

Although the greatest part of Palawan being under the Sulu dominion, yet I cannot enter into a minute description: The

country, in general, is described to be plain and flat to the bottom of the hills, and no country in this quarter abounds more in valuable productions: The canes are esteemed the finest in the world, cowries are very plenty, wax, tortoise-shell, baat, or sea-flug, &c., are in abundance. Most of the *Idaan* live on the east-side, for which reason it is best frequented, but as there are few *bajons*, the utmost benefit is not derived from the innumerable banks there. There has been lately found the *Tenju*, which is the gum, or resin, of a very large tree, it much resembles amber, and 40 or 50 piculs may be had of it yearly.* There is much ebony and lakka, and it is said there are hot springs and mines of gold. The west side is chiefly inhabited by a savage people, who seldom frequent the coast.

The Sulu dominions on Borneo are distinguished into four districts; *Tirun Mangidara*, *Malludu* and *Kiney-Ballu* or *Pappal*.

The first extends from *Kanneungan* to *Sibocu*, which is the last river of *Tirun*.

Mang-idara extends from *Sibocu* northward to *Tonssan Duyon*.

Malludu, comprehends the north end of the island, and *Pappal*, the districts adjacent to Borneo Proper. However, the limits of each are not very definite.

Besides, these districts on the main, there are many islands adjacent to almost every part of it, which I propose to mention in succession to the district they are nearest.

TIRUN.

The coast is all low mangrovy land, the mountains, very distant in shore, are inhabited by *Idaan*; all the country is covered with the *sago trees*, which, being the chief substance of the natives, they plant in great numbers every year, to prevent any deficiency, as they are long in growing. The rivers are many, very large and navigable. The produce of the country is chiefly sago, and bird's nests, both which are in great perfection and abundance: It also yields wax, canes, rattans, mats, honey, and some parts of it gold, gulega, and baat or sea-slug: And it is affirmed there is great plenty of saltpetre. And many capis.

The first river of *Tirun* is *Tapeandurian*, or *Tapedurian*, chiefly remarkable for the bad disposition of its inhabitants.

The next is a small river named *Samontay*, and to the northward of it *Dumaring*, which is a considerable place. A little farther is *Talisyan*, to the northward whereof is a point with a hill towards the shore. There are several banks along the coast, where they collect *baat*.

The next river is a very large one, sometimes called *Baron*, and sometimes *Curan*, from different places near it; the first is an independent state, in alliance with Sulu, the other is subject to Sulu: The river has 3 fathoms at the mouth, but there are several shoals

* *Tenju*, is little different from *gum copal*.

which require a pilot. There is a considerable trade, in cocoanuts, carried on from *Tuallee* on *Celebes*, to *Baron*, which they call *Barong*; according to their accounts, the river is very deep within, and the country yields much bird's nests, and other valuable commodities: But, though the Sulus agree in the magnitude of the river, they deny that the country is of much consequence with respect to its produce. This river is in the bottom of a deep bay, the land running from thence to the eastward, terminating in a point of Red Land, called on that account, *Tanna Mera*, of which are many islands. The northern part of this point is called *Sabannung*, from whence the land runs as much to the westward to a large river named *Barungan*, or *Bulungan*, which is a considerable place, formerly under *Passir*, and, besides the common produce of *Tirun*, yields much gold; a very rich mine having been lately discovered. It also yields earth oil.

Adjacent to this is *Sicatack* or *Lalanang*, it is represented to be a fine bay, into which the small river of *Tolangang* falls on the southside, and that of *Mantabuling* on the north: The productions of this place are 100 piculs black bird's nests, besides a little white, and the other *Tirun* commodities.

There are many islands,* close to this part of the coast, where the river of *Leeleedong* disembogues itself into the sea; one of these named *Tarahkan*, yields 20 or 30 jars of earth oil per annum. This river is capable of receiving the largest ships, and is very populous,* it is sometimes named *Leo*, and *Leedong*, from different places situated on it: Inland it produces much rice, which they sell, living on *sago* as in other part of *Tirun*.

There is, adjacent to this place, another Red Land, called also *Tanna Mera*.

Sambacung, which, according to the *Sultan's* account, yields above 20 piculs of bird's nests. It is also a large river, though less than *Leo*, but it has some shoals at the entrance, and several islands divided by creeks, and covered with neepa trees. The outermost of the islands, which terminates in a sharp point, is named *Pedadda*, it forms, on the south, *Sibocu Bay*, in which the river disembogues.

Sibocu River,† is larger than *Sambacung*, but is said to have some shoals at the entrance; The current is very rapid, so that the tide never runs up, the flood only slackening the stream. All these rivers are very deep within. Off this river's mouth are situated two pretty large islands, named *Samangharu*, or *Samakadu*, and *Seebattick*, the last is high, and yields much dammer.

The *Maratua* islands are six in number, *Maratua*, *Kakabban*, *Sang-alakee*, *Seemamak*, *Dalawan*, or *Darawan*, *Pulo Panjang*, and *Rabu-rabu*.

* (*Bantilan*) 10,000 people, 25 piculs bird's nests, wax, sago, and bury mats.

† *Sibocu* has more than 30 towns inland; produces 40 piculs of bird's nests, according to *Allimodin*, 50 piculs by *Bantilan's* account, 100 piculs wax, canes, rattans, very fine sago, honey, and bury mats, and 1,000 people.

Maratua is moderately high, without hills, and has some wells of fresh water, made by the Sulus, who go thither to collect sea-slug, which is in great plenty on the banks near it; it produces also great plenty of culit-lawang, or clove-bark, there being scarce any other trees on it; there are also very curious corallines found there, plenty of keema, and some teepy.

Adjacent to *Tapeandurian*, there are some small islands, and an infinite number of shoals, on which they find great plenty of baat.

There are also several islands and banks near *Kameeungan*, but that part of the coast not being inhabited, they are little frequented.

MANG-IDARA.

The district of *Mangidara* is the most eastern of Borneo, extending itself towards the Sulu *Archipelago*, in a long narrow point, called *Unsang*: This district produces bird's nests, wax, lakka-wood, dammer, and plenty of very fine gold, which is soft like wax; the most remarkable place for this is *Talassam*, within *Giong*, but the river disembogues in the north sea, between *Tambisan* and *Sandakan*.

The first river in *Mangidara* is *Tawao*, opposite to the island *Sibattick*, to the eastward of this is a point with a high land named *Birang*, and adjacent to it a river called *Pallass*, at which place are many cattle.* The land from thence to *George Bay*, is divided by creeks into several islands, the southernmost and largest is called *Culy Babang*, the northernmost *Tanna Balu*, the southern point of it, is named *Tanjong Timban Matta*.

Giong Bay is very large, and has many islands, and from shoals: There are several hills around it, the first called *Madai*, has a bird's nest cave; the next, on the west side, a high one, name *Bud Silam*; towards the N. W. part of the bay, is the river of *Giong*, where there is much bird's nest, but blackish. There is another river beyond this, named *Ling-gang*; beyond it, there is a pretty large river, and to the eastward a low mangrove point, which terminates the bay of *Giong*.

The south coast of *Unsang*, from hence to the eastern extremity of Borneo, has many bays and rivers.

Salurung is a small bay, with two reefs at the points, extending a considerable way off.

Babatu is a small river, where is plenty of wild cattle, *Mala-bung* is another river adjacent to it.

Tuncu is the next, and *Sibait* the last.

Off this part of *Mangidara* are many islands and shoals, which yield *baat*, the most remarkable of the islands are, *Pulo Gaya*, which has many deer; and *Siparran*, plenty of green turtle.

* At *Cupang*, thousands of cattle, some horses and lissang mixed: They have made a rut about a fathom deep, so that they may be caught in any number by stopping it up. When the horses appear it is a sign the cattle follow. *Oranky Malick*.

Unsang terminates eastward in a bluff point, at the N. E. part whereof is a small island, named *Tambisan*, forming a harbour capable of admitting ships of considerable size. The main adjacent yields plenty of fine timber, particularly alexandrian laurel, some trees of which are 2 to 3 fathoms in circumference.

The north coast of *Unsang* has many bays, but none which afford shelter in the northerly winds. There are on this coast many large rivers, 30 in number from *Tambisan* to *Sandakan*, all (except *Maroak*) branches of the *Kinabatanaggan* river, which comes from the lake of *Kiney Ballu*. The 4 western branches are the most considerable, and of all, the last *Towsan Abai*; the bar is very shallow, but within, it is said, to have depth enough for any ship, and perhaps, were the country well peopled, this might be brought through the harbour of *Mamuyong*, which would probably open the bar.

The eastern part of *Unsang* abounds with wild elephants, which have not reached the other parts of Borneo, and *Mangidara*, in general, with cattle, left there by the Spaniards, who about a century ago had got footing here, but relinquished it, by treaty with the Sulus.

Opposite to *Towsan Duyon*, which is said to unite the harbours of *Sandakan* and *Mamuyong*, is the island *Bahalatolis*; on the interior side of the island, it is said, a ship may careen, close to the shore, in 8 or 10 fathoms, and that there is a stream of excellent water falling into the sea over the cliffs.*

Sandakan is described to be an assemblage of many harbours, with soundings, fit for any ship, and good water: It abounds with *baat*, and just without it, there is abundance of *agal-agal*.

Doubling a point, to the north westward, is a large bay, named *Labuk*, it has several banks in it, and, farther to the north, disem-bogues the river of *Sugut*, which (it is said) comes from the lake of *Kiney Ballu*.

Opposite to *Sandakan* and *Labuk*, there is an assemblage of islands, the easternmost, named *Baguan*, is remarkable for the great plenty of green turtle, found there in the southerly winds. This island and *Siparran*, on the coast of *Mangidara*, are the only places where the *punu*, or green turtle, are in plenty. The *payukan*, or tortoise-shell species, is remarkably plenty, in all the *Malludu* islands in particular. *Baguan* also, has plenty of the palo-maria or alexandrian laurel. The other islands in this cluster are, *Saganac*, *Great* and *Little Bancungan*, *Langaan*, *Lihiman*, *Bo-aan*, *Papattangal*, which is a bank with a tree, *Silingaan*, *Gulissan*, and *Liharran*.

Almost midway, between *Baguan* and *Cagayan Sulu*, is *Mambahenanwan*, and between them and the *Paitan* islands, is *Lamkayan*.

Paitan is a bay and river on Borneo, remarkable for the abun-

* This account was from the information of the *Sulus*, before I had visited these parts.

dance of camphir; it also yields clove-bark, and has plenty of lissang; it is very full of shoals, and the coast on both sides extremely foul. The islands to the southward are named *Eillebillean*, *Great* and *Little Tagypil*, and *Cuya Cuyahan*; on the north are *Leonan* and *Kalangaan*. There is a creek from *Paitan*, leading into a large bay, between it, and *Malludu* bay, of which are many islands, but the bay, as well as the islands, extremely encumbered with shoals, the largest of the islands is *Mallawallé*, which is high, and forms an agreeable prospect; the others are *Bidalla*, *Kukubun*, *Tigabu*, *Sipindung*, *Tibakkan*, *Tihingan*, *Mandidara*, *Taranka Paranka*, *Marantabuan*, and *Inonsal*: between these and *Eanguey*, there are also many shoals, leaving however a navigable passage, and indeed, as these are detached banks, with deep water and good soundings between them, was this place minutely examined, there is no doubt many other passages might be found.

Of the east coast of *Banguey*, there are many islands, but little considerable, except for the plenty of turtle.

Cagayan-Sulu is a cluster of islands, not visible from *Banguey*; the chief only, of these islands, is constantly inhabited; there is a very good bay, on the west side, and there are soundings, between many shoals, to *Banguey*.

Malludo is, in many respects, one of the most valuable districts on Borneo. Few places equal it, in the abundance of provisions, nor is it destitute of valuable articles of commerce.

There are many rivers, of fresh water, which fall into the bay of *Malludu*, which is reported to have good soundings to the very bottom. On the east side there is a large shoal, which, by report, forms a fine harbour at *Bankoka*, where is a very good landing place, and very fine culit-lawang, or clove-bark, is produced here.

The opposite, or west side, is remarkable for the Pearl Banks, which are, chiefly, found near *Songy Basar*.

The whole district of *Malludu* abounds with rattans, of which 10 or 20 feet long, two or three ship's-load might be had: It also abounds in grain, and inland is very populous. The country, to the eastward, of *Kiney Ballu* as far as *Sandakan*, is low and plain, with a few hillocks, but no high land, except a ridge to the southward of *Bankoka*, which seems to run nearly east and west towards *Paitan*, leaving a gap of low land. At the bottom of *Malludu* bay, between this ridge, and that which runs from the *Tampassuk* mountains towards *Sampanmangio*; through which, from *Banguey* and *Malludu* bays, the high mountain of *Kiney Ballu* is seen to great advantage, rising abruptly on the west to a stupendous height, and falling down on the east with a gentle declivity towards the low land of *Sandakan*. This country cannot fail of being one of the most fruitful in the world, if well cultivated and inhabited by a civilized people; were this the case, there would be an easy land carriage, of 40 or 50 miles, to the lake of *Kiney Ballu*, which is represented to exceed in magnitude the lake

Manila, and to have many islands in it. It is said, to be 5 or 6 fathoms deep in some places, and to be the source of all the considerable rivers in Borneo, above 100 in number; the water is not limped, but whitish: Around its margin are innumerable towns of *Idaan*, they have a sovereign here, but in other places only chiefs, or orankys. This tribe is extremely numerous, but from their want of foreign communication, and from some remarkable customs, they are less addicted to commerce, than the value of their country would make it imagined. They have however an intercourse inland with *Benjar*, and are well enough inclined to commerce and husbandry, except where their prejudices lead them into war.

The islands opposite to this part of Borneo, and indeed the coast, from *Sampanmangio* to near *Paitan*, do not properly come under the denomination of the Sulu dominions, as ceded to the English company, and require a particular discussion in another place, as the most eligible of all situations for the capital of the *Oriental Polynesia*.

The last district of Borneo, is *Pappal*, the limits *Sampanmangio* on the north, and *Kimanis* river in $5^{\circ} \frac{1}{2}$ N. latitude, which, by treaty, is the limit southward, with the kingdom of Borneo-*Proper*.

The productions of this coast, in general, are sago, rice, betelnut, cocoanut oil, camphor, wax, some pepper, and cinnamon; particularly the last in some quantity at *Kimannis*. The country is very populous, the inland particularly, which is inhabited by *Idaan*, as are some places on the coast: It is extremely well adapted for the cultivation of pepper and cinnamon, and in a few years large quantities might be had; it is very well watered, and has the convenience of many rivers, navigable by boats, and some even by larger vessels; the river of *Tawarran* leads to the lake of *Kiney Ballu*, from whence it is about 10' or 15' distant, and is accessible for boats; that of *Tampassuk* is said to come from thence also.

The first river is *Tambalulan*, the natives *Idaan*, though few in number; abreast of this river is a coral tree, 5 or 6 fathoms high, it grows in 7 fathoms, but the number of large fish frighten people from diving for it.

Lu, is a small river, is the next.

Pandusan has few people, who are Mahometans.

Tampassuk, *Abai*, *Lubuk*, and *Ambung*, are inhabited by Mahometans, and form one jurisdiction. The first is a fresh water river, with a bar of 2 fathoms at high water, it is fresh at the bar, and within has 3 and 4 fathoms, it is reported to come from the lake of *Kiney Ballu*, and has a gold mine near it.

The river of *Tampassuk*, a few miles inland, approaches very near that of *Abai*, which is salt for some miles up, leaving a low narrow isthmus between them; the natives have had some thoughts of directing the *Tampassuk* river across this, into the channel of *Abai*, which is even now accessible at all times by small vessels, and would then probably be so by large.

The harbour and river of *Abai*, are superior to any, between *Sampaunangio* and *Pulo Gaya*, (and indeed is the only place where vessels have shelter from westerly winds) except *Ambung*, which is near to *Abai*, and is represented to be a good harbour. The country here abounds with grain, and considerable quantities of pepper and cinnamon would be had in a short time, were the cultivation encouraged.

The next river is *Sulaman*, which is inhabited by *Islam*.

Tawarran is inhabited by *Idaan*, there are many goats in this district; it is very populous. About 60 *Chinese*, who left Borneo many years ago, settled amongst them. The river is reported to be navigable for boats, to the lake of *Kiney Ballu*.

Mangcabung river is inhabited by *Islam*, it is populous; there is a sand-bar with 2 fathoms at high water, at low large Sulu boats cannot enter, within 3 or 4 fathoms; there is a salt lake about 3' from the bar, it has 2 fathoms and in some places 1 fathom. The river above the lake is rapid, and full of rocks, so that it is not navigable but by canoes; some say, it comes from the lake of *Kiney Ballu*; but *Dato Saraphodin* thinks otherwise. This place and those before mentioned, produce some pepper.

To the southward of *Mangcabung* lie *Pulo Gaya*, and some other islands, they with some shoals form a convenient harbour, but of difficult entrance on account of these shoals; into this harbour disembogue the rivers of *La Batuan*, *Inannam*, *Mangatal*, *Putatan*, and *Kinarut*; the inhabitants are *Islam*; the country is populous, and produces sago, rice, betelnut, cinnamon, and cocoa-nut oil.

The next river is *Pangalat*, and to the southward of it *Pappal*, which is a large barred river, disembogues by two branches, the western named *Benoni*. The country is very populous, the natives *Islam*, it produces camphor as well as the other articles.

Kimannis is the last river of the Sulu dominions the inhabitants are *Idaan*, and very numerous, they carry on an extensive trade in their own prows to *Java*, &c., the country, besides a considerable quantity of cinnamon and the other articles above mentioned, produces tenju, which is the gum of a certain tree, found also in *Palawan* and *Magindanao*.

There are few islands off this coast. *Pulo Tiga*, adjacent to *Kimannis*, is not remarkable for any thing. *Mangallum* abounds with fresh water, though a low island, it yields also much agal-agal, and a delicious root resembling turnips.

Mantannané, which is opposite to *Pandasan*, is in the district of *Abai*, there are three islands with produce some bird's nest, but of a red colour.

Such are the Sulu dominions on Borneo, this imperfect sketch of them may afford some satisfaction, since hitherto we have been in absolute ignorance of this quarter.

MALAY AMOKS.*

The character of the unsophisticated Malay is remarkable for its simplicity and honesty; having no artificial wants they are satisfied and content with what would be considered positive destitution by a Chinese, they are consequently apathetic and inactive, and will not for any amount offered to them, labour beyond their usual habits, or customary routine; they have little if any speculative turn; they have a regard for truth and may generally be depended upon in their statements. What has so often been written of their revengeful spirit is much exaggerated; polite in the extreme according to their own ideas, they never indulge in abuse one towards the other, the only reply to any deviation from this rule is the *Kris*, for which they will watch their opportunity and most certainly not afford their adversary any advantage it is in their power to deprive him of. This is their code of honor, and being fully aware of it amongst themselves, provocation is seldom given, and satisfaction as seldom required. When goaded however to the necessity they become perfectly reckless, and should discovery attend the deed they attempt no refutation but sell their lives at the utmost cost they can to the captors. Too often have I known the Officers of Police compelled to shoot them on these occasions. Such is one species of "Amok" and how offenders of this description are to be dealt with, can admit of but little doubt, but there is another variety of the "*Orang Beramok*" vastly different, and by no means the least frequent, which requires discrimination on the part of the Medical Jurist, to prevent irresponsible persons suffering the penalty of the injured Law. For instance a man sitting quietly amongst his friends and relatives will, without provocation, suddenly start up weapon in hand and slay all within his reach. I have known so many as 8 killed and wounded by a very feeble individual in this manner. Next day when interrogated whether he was not sorry for the act he had committed, no one could be more contrite; when asked why then did you do it, the answer has invariably been "the Devil entered into me, my eyes were darkened, I did not know what I was about." I have received this same reply on at least twenty different occasions; on

* With reference to our notice of amoks in the last number of the Journal we insert the following remarks, extracted from an official Medical Report on Singapore by Dr Oxley. They are of very great practical value, and we hope some of the other medical gentlemen in the Straits will favour us with the results of their observations on this deeply interesting subject. The importance of the diffusion of correct views respecting it cannot be overrated.

examination of these monomaniacs, I have generally found them laboring under some gastric disease, or troublesome ulcer, and these fearful ebullitions break out upon some exacerbation of the disorder. Those about them have generally told me that they appeared moping and melancholy a few days before the outbreak. It is certainly much to be deplored that Moromania amongst the Malays, almost invariably takes this terrible form. The Bugis, whether from revenge or disease, are by far the most addicted to the "Amok." I should think $\frac{3}{4}$ ths of all the cases I have seen have been by persons of this nation.

T. OXLEY.

THE ORANG KOMRING.

[It is stated in the *Singapore Free Press* of the 3rd instant "that disturbances have lately occurred at Komring under the Government of Palembang, owing to the determination of the inhabitants to resist the levy of a poll tax of 6 rupees, and the forced labour imposed by the Dutch Government. We have not yet learned the particulars. It would appear that the former Pangeran of the district, disgusted with the duties imposed on him, had resigned his office and returned to Palembang, and that his successor had failed in reconciling the inhabitants to exactions to which they had not been accustomed. This disturbance appears to be considered as serious by the Supreme Government, who have ordered the immediate despatch of three War Steamers and 1,000 soldiers from Batavia." As we merely mentioned the name of this people in our General Sketch of Sumatra (ante p. 354), we here give a short notice of them, translated from the *Tijdschrift v. Neerl. Ind.* ED.]

The character of the inhabitants of Komring, and especially those of Komring Ulu, is more substantial than that of the Ogan people; they have a peculiar language, their writing in letter and sound agrees much with that of the Battas, their religion is in general heathenism; worshippers of images, they firmly believe in the transmigration of the soul. This people are bold and determined; and it is an extremely rare event that one of their dusons or talangs is attacked, because they can stoutly defend their lives and property. They are also more industrious than the rest of the inhabitants, and it is from their country that most pepper is brought to market. They hold fast their ancient customs; the *jujur** is highly respected; and yet this people are obedient and submissive to all rules and commands. Although many of their dusons are about as populous as other dusons, the houses are fewer; they are large, roomy and strong, constructed of fine wooden work, and not seldom ornamented with varied carving; they sometimes contain from 10 to 20 families who live peaceably together.†

The so called *menareh* (dancing) and *berswara* (singing) also differ in Komring from what they are in the other districts. The young girls dress better, are more pleasing in their movements, and their voice is more harmonious than that of women of the country usually is in singing. We have frequently witnessed that girls by the gift of song are able, in free, agreeable and melodious tones, to pour forth improvised couplets and verses in honor of persons and events.‡ In former days the concubines of the Sultan were chosen from the fair sex in Komring.

Under the division of Komring is the district of *Ranau*, with a small population of about 3,000 souls settled around the large and beautiful lake of Ranau.§ This lake, in a basin amidst hills, gives to the population an abundant livelihood. The Ranau tobacco is the kind in so much request in the Archipelago, and the value of which at Palembang rises from 40 sometimes to 200 and more guilders the pikul, prepared in the Indian manner.

* See Marsden's Sumatra.

† In preserving this Indo-chinese custom the Komring agree with the Korinchi (General Sketch of Sumatra ante p. 363), whom they also resemble in character and habits.—ED.

‡ This is a common accomplishment amongst the more civilised Malayan races.—ED.

§ Ranau=Danau (Lang. Ind. Arch. ante Vol. II. p. 230) means a lake in most of the Malayan languages in which it occurs. In Johore it is also applied to a broad reach in a river.—ED.

THE
JOURNAL
OF THE
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

TOUR IN JAVA,*

FROM SOURABAYA, THROUGH KEDIRI, BLITAR, ANTANG, MALANG,
AND PASSURUAN, BACK TO SOURABAYA.

By JONATHAN RIGG, Esq., *Member of the Batavian Society of
Arts and Sciences.*

THE road from Batu to Malang, a distance of 12 pauls, is again broad and easily passable in a carriage, the descent being gradual. We got fresh horses and rode down in the cool of the afternoon. Cultivation and population increase as you proceed; the vale of Malang is a rich upland territory some 1,000 to 1,400 feet above the sea, surrounded by a noble amphitheatre of mountains, amongst which are the highest of Java, the Semeru and Arjuno, the Kawi and Tengger. On this part of our journey we observed a great number of flowering trees called Poloso, they are sometimes quite destitute of leaves, but in their place covered with a profusion of bright red flowers which immediately attract the attention. We reached Malang still in time to view the antiquities collected in the garden of the Assistant Resident. The principal of these is a handsome and well executed figure of Buddha squatting

* Concluded from p. 507.

at the flagstaff. The image is about four feet high from the seat to the top of the head, and is thus larger than an ordinary sized man ; he is bald headed and enveloped in the simple Siwura which shows across the breast and at the ankles ; in these particulars he resembles the figure of Joko Dolog, before the Residency of Sourabaya, and in fact is, in other respects, the same, a little less in size. The figure is in every respect perfect except that the tip of the nose has been knocked off, and this an attempt has been made to replace by a vile cock up one in wood. This is the only representation of Buddha which I have met with in Malang. Near to this is a full life figure of what appears to be a Maha Dewa, also squatting cross-legged and executed in a superior style of excellence. Unfortunately the face has been knocked off, as is the case with so many other images on Java ; the zeal of the new converts to Mahomedanism appearing to have vented itself in this peculiar method of mutilation. Behind the figure, the stone is shaped into a flat slab against which it leans and by which it is overtopped. Opposite the back part of the head, this slab is perforated, and through an opening of about 10 inches, may be seen a placid face of Maha Dewa looking out from behind, no doubt symbolic of his all-seeing power. This face with its beard is perfect, being protected by the slab. Here is also found a slab with a long inscription, in characters the same as the one at Antang and also very distinct. In another part of the garden we observed a collection of many figures of smaller size being 2 a 2½ feet high ; the most remarkable of these were goddesses with full breasts, the nipples of which are pierced and appear to have admitted the passage of water.

The abundance of the remains of Hindu antiquities, in this part of Java, must now be sufficiently manifest from the circumstance alone of our never reaching a place of any note, without finding a collection of them in the gardens or near the dwellings of the European authorities. Many more doubtless exist in the jungle and villages, and many others have been carried away during the last 50 years. We observed a mutilated Ganesa upturned and left neglected by the road side, near a village on the way from Batu. A matter worthy of remark is the great variety which is every where met with, all bearing Hindu characteristics, sufficiently proving that the strangers of India had always the guidance of the work. There is no appearance of the Javanese having merely servilely copied a few models which had been left them ; every where the execution is spirited even when rough, showing that masters' hands have been there.

We found accommodation for the night in the Government Pasangrahan, which is a roomy brick-building outside the town, and close to a double-storied erection with a breastwork of earth at one corner, on which is mounted a gun, and which, out of compliment, is called "The Fort." The river Brontas, which is here crossed by a wooden bridge, runs between them and the Kota Malang,

and is at this part of its course a fine mountain stream purling over a bed strewn with trachyte boulders. Having taken the precaution to order up in readiness from Passuruan a roomy travelling carriage, we were able to perform the rest of our journey in an easier way, and with less exertion of our fundamental abilities, than the horse-back jaunt of the last two days, across the mountains, had subjected us into.

Day-light of the 26th June found us whirling along our route, and close to the 28th paul, we stopped at the first post station, being Lingo Sari. Here are the ruins of an ancient capital of that name, which we spent a few hours in examining. Walking a short way from the post station we found a road diverging to the left towards the Arjuno. Right and left, as you enter, is seen a slab of stone standing in the ground and protruding about 3 feet, having a breadth of 18 inches by a thickness of 6 inches. They are both covered with inscriptions, but not quite so clear as those at Malang and Antang. Passing downwards, at the distance of a few hundred yards, you find on the right a small temple which is the most perfect of all the ruins. It is built of hewn trachyte rock, such as is used in the other edifices and in the statues, only these are generally of a harder variety, so as to admit of finer chiselling, the softest description being in the middle of walls where it was not exposed to the influence of the atmosphere. The temple now under consideration stands upon a terrace walled up, all round, to the height of 3 feet, and forming a square, 21 paces each way. It occupies the centre of this, covering an irregular square of 25 to 30 feet and rising also to an apex of about 30 feet. It is externally much shattered and in places tottering, but its interior chamber is still entire. The entrance to this is on the side facing the lofty Arjuno mountain which towers up hard by. Steps are here found in the basement terrace and conduct to a vestibule, which leads very nearly south east into the building; this is four paces long, and at the outer end may be seen the grooves in which a door has formerly turned. The chamber within has had no light but through the vestibule, occupies the centre of the building, and is also four spaces square; has plain smooth walls, which overhead tend together, by a series of overhanging and inverted steps, till they terminate at the apex of a concave pyramidal roof. In the middle of this wall still stands a corniced pedestal hewn out of a single block; it is three feet high with a deep hole in the top, which contains water. The superstitious natives still smear this pedestal with Borch or yellow pigment and burn incense, as may be seen from the fresh remains still lying here. On the three other faces of the building similar and symmetrical vestibules have existed of which traces still exist; they however abutted against the wall and never having had any further interior recess, each served for the shrine of an image. As at almost all other ancient temples of Java, the lintels of the vestibules are formed

from a single slab stone fashioned to represent a monstrous human face or rather that of a gorgon, with grinning lips exposing the teeth, of which the side ones are tusked fangs, hooked projecting nose, and a pair of goggle eyes starting from their sockets. The north east vestibule has been totally broken down, but the lintel piece or gorgon's head, as well as the pedestal of the statue are still seen amongst the rubbish. There is a mark also on the wall showing that an image had stood there, but this has disappeared. The floor of this vestibule has been broken up and an opening made under the centre chamber, breaking through a wall of bricks which have been used for the internal foundation, and appear to have composed an interior and hidden recess, probably constructed for containing holy relics or votive offerings. The south eastern vestibule has also been broken away, but traces of the door-grooves still remain, and the lotus-pedestal occupies its original position. Horsfield who visited these ruins in 1815, describes these two vestibules in the same state, and says that he was informed that the agents of Mr Engelhard had committed the depredations and removed the statues—pity it is that we have no description of what these statues were! On the south west the form of the vestibule can still be clearly traced, though tottering in ruins. The aperture of the door-way is nearly choked up by the tumbling together of the materials from above; a small opening along the floor, of scarcely a couple of feet high, is kept unobstructed by the squared stones having caught each other by the angles, and so hanging as if in imminent danger of tumbling together on the least touch. Having seen them, however, in the same position nearly eight years before, I mustered courage and crawled in under them. Inside you can stand up and the roof next the body of the temple is still entire which reassures the wavering nerves. On the floor of this recess, thrown down upon his back, with shoulders directed outwards, lies an image of Maha Dewa, fully as large as life. It is, however, a headless trunk; and not alone the head but also the whole of the left arm and the hand of the right one, which has evidently reposed in front of the stomach, are broken off and have all disappeared, carried away, no doubt, by plundering Goths. The remains of Maha Dewa's peculiar beard are still seen neatly chiseled upon the breast, where it hung down lower than his neck. The lower part of the body is enveloped in elegant drapery, which descends to the ancles, and there leaves exposed below the unshod feet. On the right side is seen a lotus leaf and stem and the pedestal of what I take to be the trisula, which however no longer exists. An elegant bunch of lotus plants grows up on his left, with flowers in various stages of development, from the compressed oval bud to the full blown open petals. On the left shoulder reposes a chamara or fly whisk, with a rope-like limber handle. The whole has been executed with peculiar care and is of a very superior style of art. The pedestal on which this statue stood is

still in its place next the wall; the figure, however, must have been turned round before it fell, as to fall as it now lies it must have stood with its face to the wall; this may have occurred in some former attempt to get it removed, and being then accidentally injured was considered unworthy of further trouble. Horsefield in 1815 remarks of it—"in one of these niches we observed an image lying flat on the ground, with its head off."

Above the top of these vestibules, the building rises in a square upper story, with a niche crowned with a gorgon's head placed in each face above the vestibule below; no figures now occupy these niches. Right and left of the vestibule which leads into the central chamber are large recesses, as high as the doorway, fitted with pedestals for images. On the eastern side only a small image remains, but evidently not the one originally meant for it, being too diminutive, not exceeding 3 feet in height. It is however a very good and distinguishable image of Doorga standing on the buffalo's back, in her right hands successively holding that animal's tail, an arrow, then some instrument which is broken away, and lastly and uppermost a trisula. The four left hands hold in turn, the hair of the imp crouched on the buffalo's head, then an open hand simply, next a bow, and lastly above, a winged chank shell. In front of the temple are arranged a number of small images, many of which are a good deal weather-worn; amongst these are some small gate-keepers with clubs, a few Braminy bulls, Ganesas, two chariots of the sun each drawn by seven horses abreast and driven by one man seated on the square box-like car, the rude figure of a bull sitting on his rump and holding folded human hands in front of his belly, a small couchant elephant, as also another Doorga, four feet high, holding a club on the head of the buffalo where the imp is usually seen.

Proceeding inwards a little further, along the road by which we had just before entered, a collection of several other antiquities is found. The first met with, is a splendid plump Braminy bull, couchant and larger than life. The execution of this figure is admirable, and he is still perfect with the exception of both horns and part of the left ear. He has a bell hanging on his dewlap, suspended from his neck by a collar ornamented with large thick beads. It has on its back an embroidered pad fastened on by a band round the belly and others under the tail. On the centre of this pad, and immediately behind the hump, is carved a full blown lotus flower. This bull is figured in Raffles's *Java* amongst the subjects of Singo Sari.

The next objects which attract attention are two colossal and gigantic Janitors or watchmen crouching on their hams and yet reaching to a height of fully 12 feet, with nearly as much breadth from elbow to elbow, each cut out of a single block of trachyte rock. These are the most stupendous statues in Java, being larger than figures of a similar nature at Chandi Sewa or than any of

the three great images at Mendut. They are a symmetrical pair and have evidently served for the approach to some place of importance; though on either side of them at present no ruins or remains of any corresponding consequence are found, yet these huge blocks could not easily be removed. They may have perhaps served to guard the approach to the Kraton of the prince, passing in between the places of worship, and whose habitation being constructed of perishable materials, has left no trace behind it. Two walled up terraces forming a gate-way between them still exist and are 10 or 12 feet high, but whether the images were ever placed upon these must be a matter of doubt, partly from the difficulty of elevating such heavy masses to such a height and partly from never finding similar images at other ruins placed above the level of the ground. One circumstance however favors the idea that they have fallen from these terraces, as they are now found one to the eastward, the other to the westward of its adjacent terrace, whereas from their fashion, they have clearly been designed to face each other or at all events to be put in the same line. Under this supposition the statues must have been reared on end after they they had fallen. Horsfield describes a similar gigantic statue seen here by him, but as its club was wanting and the mouth and chin mutilated, it must been other than either of the two now under consideration; as this is no longer seen here it must have been carried away. A few observations on the first image we came to will explain the nature of the other. Crouched on his hams, in his left hand he holds a club or Gada, the top of which he grasps whilst the lower end rests on the pedestal; the club itself is ornamented and variously carved as if it had been turned in a lathe. The right hand is held up, with the thumb and ring finger bent downwards, whilst the index and middle finger point upwards; the little finger is wanting, apparently knocked off, the only injury the image has experienced. A thick snake is coiled round the body with the head and tail twisted into a knot. The body is bare except a clout on the loins. The features of the face are prominent and bold, particularly the nose, and though the mouth shows fanged tusk teeth, and the eyes are goggling out, still a good natured, mild countenance prevails. The brows are bound round with a circle or band of death's heads the hair within which, on the crown, is combed smooth, but hangs below it in curls which descend upon the neck and shoulders; a death's head ring is stuck into either ear. The other Janitor is similarly decked out, is entirely perfect, but the pedestal is a little sunk in the earth. In this image however, the right hand reposes upon the top of the club, whilst the left is folded down over the knee pan.

Near to these is a beautifully executed Ganesa or Bitara Gana, the same which forms the frontispiece of Raffles' 2nd vol. of Java. It is perfect in all its parts and displays the consummate skill of the artist. It is five feet high and squats upon a pedestal of death's

heads, which are also frequently introduced on the dress and tiara which crowns the head. The body bears the human form, is pot-bellied and surmounted by an elephant's head and snout, is the Hindu god of wisdom, the offspring of Siwa and Doorga. There is also the squatting figure of a woman, but of which the head is wanting, though still $3\frac{1}{2}$ feet high. The breasts are full and prominent, the hands are folded in front, and bracelets and other ornaments are observed. The statuary is well executed but no distinguishing insignia mark whom it was wished to represent. A large and a smaller car of the sun stand here, each drawn by seven horses abreast, of which the snouts are broken off, the tail of either outer horse streams out behind, over the circumference of the wheel of the chariot. A single person drives the team and the body of the car seems formerly to have served as a pedestal.

The magnificent statue of Brahma with four heads, which Horsfield saw here in 1815 is no longer to be found; it as well as the Maha Dewa, on the stone of which were several Devanagari characters, cut in relief, has been taken away by some ruthless plunderer, who has thus rendered the already difficult task of unravelling the antiquities and history of Java so much the more perplexing, by withdrawing such important remains of art from their original positions, and from the contemplation of which so many inferences might probably be deduced.

Proceeding through the coffee bushes, a little to the southward of the last mentioned group of images, we found that the natives had been lately grubbing up the foundations of a small building, apparently for this sake of the squared stones of which it was composed, and which were thrown up out of the excavation. Close to it was the crumbling heap of another building hardly distinguishable for bushes and tangled weeds. An aperture, however, on one side exposed a hidden under ground recess, under the body of the ruins, similar to the one seen at the stone temple first mentioned. Going on a little further in the same direction, a most extraordinary edifice is met with. This is an oblong smooth sided, quadrangular, solid building, composed of hewn trachyte, 31 paces long by 12 broad, having the direction, by compass, of north west and south east, and about 20 feet high. It can only be ascended at the centre of the south western face, where the wall has either partially tumbled down or may have originally had some steps. It is remarkable that one half end of the building from this gangway towards the north is partially embellished with cornices and other architectural ornaments, whereas the other half towards the south presents nothing more than a simple plain wall. The north end is a little higher than the south and contains a fosse or square hole, in which is lying a large female image with the head broken off but still here. On the same slab of stone on the right and left and standing as high as her hip, is another small female image, each standing with folded hands. All three are included

on a Yoni pedestal, from the nozzle of which rain water might drain away. Three or four other square Yoni pedestals are found upon this building. The southern end, which is a little lower, hardly bears the trace of an indenture. I am at a loss to imagine for what purpose this building can have served, unless it has been a place on which to burn the dead, the ornamented end being reserved for the use of the priesthood and nobles, whilst the lower castes received the same rites at the other end. Close to this, on the south west, are the remain of three other structures; the foundations only of the first exist, they are circular, and many blocks hewn to the segment of a circle show what sort of a building they have formerly helped to compose. The two next ruins have been Chungkups, that is temples without any interior or central chamber. Judging from the more perfect one which still stands, they may have risen to a height of 25 or 30 feet, and been fitted with vestibules and niches, though no images now exist.

A little to the northwest of these is the last ruins of the group of Singo Sarie; it is also a Chungkup, but has a secret vault placed under ground beneath the centre of the buildings, and to which a breach broken through the wall lays open a view. These secret walled vaults in so many buildings, most probably originally served to contain either the pious offerings of their founders or some holy relic. Did they perhaps contain the ashes of the dead, gathered up from the contiguous burning place, and the Mausolea raised above them commemorated the deeds of mighty men, the light of whose name and fame has failed to shine down to us through the dim vista of Javanese history? However this may be, the unscrupulous hand of posterity has been busy ransacking these recesses in the hope of finding hidden treasure. The ruins of the Chungkup at which we have now arrived form a pile of about 20 feet in height, which can be easily ascended. From the top is a fine view of the surrounding mountains—the peak of Arjuno bears N. 22° W. whilst the Kawi rears its head a little to the southward of west. The material used is not the black colored trachyte, as in the other buildings, but a softer white stone which is thought to be a similar igneous rock in a peculiar state of decomposition, and which may account for the outer coating of this edifice having dropped away, leaving as it were only the core. Round the lower part of this Chungkup, it has been embellished with neatly executed sculpture, cut in a still finer variety of the same white stone, applied in slabs. On two sides this has entirely mouldered away, but on that where the opening has been made into the vault, it is still very clear and distinguishable, though often much injured. The subject matter appears to be similar to that observed at Panataran; the same old holy man, with flowing beard, is entreating with folded hands a queen or princess squatting in a *bali-bali*, who is waited on by female attendants neatly dressed with smooth combed hair bound into tresses. The prin-

cess is represented as enveloped in a handsome damasked dress and a handmaid stands beside her holding the siri box. The same description of open chariots with spoke-wheels are drawn by horses—there is a man on horse-back, seated on a saddle with his garments streaming around him; the horse is clad all over in armour or at least a housing which covers the whole body from the chest to the rump. Parts of buildings and of open galleries are represented but the perspective is bad, such as we see in Chinese drawings; the chiseling and execution itself is neat and minute. On the eastern side, opposite to this, may be still seen the remnant of a car drawn by a horse at full speed, and near it a large human figure is kicking away one demon-monster, whilst it catches another in its left hand, as it comes to it through the air.

We have now surveyed the whole of the ruins and antiquities of Singo Sari, said formerly to have formed the seat of an independent native government, contemporaneous with Janggolo and Kediri, being in fact one portion of the dominions of Dewa Kasuma, which he divided amongst his children after their return from India, previous to the 1000th year of our era. Of the particular adventures of its princes, however, we know nothing, and were it not for these remains, the very existence of such a state might be disputed. Here, however, still stares us in the face the indisputable evidence that once flourished a prosperous and quiet community who united their efforts and their skill to rear and accomplish these wonderful works of art. The instructors and guides have clearly been Hindus, worshipers of Siwa, who have left behind them so many monuments of that peculiar sect. There is presumptive evidence that all the statuary here found, has been executed upon the spot. Not to mention the bulk of some objects, which precludes all idea of their having been brought from abroad, the stone from which they are cut, is invariably some variety of the trachyte which constitutes the formation of the country. It has been denied that this is the case, argument being held that the statues have been cast in moulds and made of some asphaltic composition. But an examination of the stone itself refutes this, entangled nodules of harder varieties being sometimes seen, as is the case with other rocks of the country, which they resemble, and of which they are a selection of the soundest and hardest variety. Besides this there are the imbedded crystals of glassy felspar and hornblende which speak for themselves. The white colored variety does not effervesce under acids; here also the imbedded and decomposing green crystals bespeak its igneous origin. On showing specimens of both stones to the gentlemen of the Geological Society in London, they unhesitatingly pronounced them of volcanic origin, and laughed at the idea of supposing them compositions of human art.

The etymology of Singo Sari gives us no clue to its history, it is Sanscrit as is usual on such occasions, and implies the Lion-

flower ; a high sounding name but equally applicable to any other prosperous place.

Singo Sari is situated near the upper edge of the sloping province of Malang, one of the most romantic and beautiful parts of Java. The water shed is two or three pauls near Pasuruan, when you again begin to descend towards Lawang (the gate-way) which is the top of the pass leading up between the slopes of Arjuno and the Tengger mountains, and by which alone the north coast can be gained, the other parts of the boundary being shut in by rugged mountains. Tradition relates that near the division of waters several great battles have been fought, as well in modern times against the Dutch, as in days of yore against invaders from Bali. One of the paul-posts by the road side still bears the name of Bedali, the scene of one of these actions ; we crossed the rivulets "Kali Getih" and "Kali Sura"—the former being the "river of Blood" from its course having been dammed up with the carcasses of the slain—the latter the "river of the Brave" bespeaking its valorous defence.

We passed the remainder of the day at the Pasangrahan of Lawang, reluctant to descend again to the hot plains. We enjoyed in the evening a delicious bathe in a pool of crystal water, which is fed by a runner which further up the dell is found to gush in a copious stream from under the bank. The next morning we descended to the town of Pasuruan at a distance of nearly 23 pauls. Excellent post stations have lately been put up along this road, with an extra intermediate one at the steepest parts, so that the ascent can now be made with comparative ease, without the traveller being annoyed by the poor exhausted rats of horses sticking fast at every brow ; for this the inhabitants have to thank their new Resident. We found Pasuruan like the abode of the dead, almost the whole population having gone out to Banyu Biru or Blue Water to witness the opening of the new bathing accommodation which has been provided by the munificence of M. Hofland, and of which care has been taken to inform the public by an inscription on a stone slab let into the wall.

On the 28th June we returned to Sourabaya highly pleased with our 10 days ramble.

Sourabaya, 26th September, 1847.

ACCOUNT OF SULU.*

PART II.

The notion, commonly entertained, of the influence of climate on the manners of men, seems no otherwise well grounded, than as manners are derived from the religion, government and customs, which are indeed regulated in good measure by circumstances, arising from the situation of a country.

Previous therefore to a consideration of the people, it seems proper to treat of their government, religion and literature, as the origin of their manners and dispositions.

Nothing, to a speculatist, is more agreeable or important, than the observation, what a difference, in point of morals, and the interests of society, arises from customs and education, by which

—Man differs more from man
Than man from beast.—

Speculations of this kind will probably make the best subjects, by impressing the strongest sense of the calamities incident to a deviation from the line of rectitude; and also shew, how instrumental religion is to the welfare of mankind, and towards preserving the interests of society.

CHAPTER I.

Their Government.

The cold regions seem not only to have been the nurseries of the human species, but of civil policy; and, probably, from thence the mixed monarchies, established in this and the adjacent islands, were derived; for as an emigrant from China, in early age, obtained the dominion of Borneo, we need not hesitate to conclude, the police of the Chinese was engrafted on this savage stock.

It is a very difficult matter to describe the constitution of any country; but it is scarcely possible to be done without recourse to ancient records: Enquiries gain but little information, as few, even in the more civilized countries, are well enough versed in the principles of their legislature, to inform a stranger: so much is every where supposed to be previously understood, that without the ability and leisure to consult the Sulu records, and being capable of entering into a personal conversation, in their own language, with the most ancient and intelligent, on the subject of these records, I despair of being able to give a connected idea of their constitution.

Their Government, by the names of the officers, which is indeed said to be derived from the example of *Achin*, seems to differ little from that found in the *Malay* countries, except perhaps of having more of the popular cast, unless the *Malay* sovereigns may have gained a more absolute authority, than originally was intended by their constitution.

* Continued from p. 531.

The Sulu Government is divided into three Estates: the *Sultan*; *Nobility*, or *Datos*, chiefly personated by *Dato Bandahara*, whose authority appears to be little less than the *Sultan's*; and *Orankys*, or rather the *People*, personated by *Oranky Mallick*.

In former times, their Government was executed constitutionally: but at present, many of the offices are vacant, and the *Sultan* little considers the others, but in particular exigencies or disturbances, where a regard to his own security extorts from him promises and professions, by which he means nothing. It is an observation of old *Bahatol*, that all former Sultans and the Officers, were like the stone and setting of a ring, where there was a mutual connexion and dependance; but that at present, the stone seemed to have rejected the setting as useless: this adds to my difficulties, as the Sultan had a point in view, in all the eclaireissement he gave of the officers of state.

The offices, in general, are hereditary jurisdictions; though incapacity, or other reasonable objection, may prevent this rule taking place. The appointment of these officers, on vacancies, seems a part of the royal prerogative, though not without a *Bechar* of the other Estates. The officers which have been related to me are,

Amongst the *Nobility* or *Datos*, who are all of the Royal line, legitimate or bastards.

Dato Bandahara, who on the *Sultan's* death governs until another is elected, and afterwards is styled *Raja Bandahara*.

Dato Mamaneha.

Raja Laut, i. e. Lord of the Sea. High Admiral-

Juhan Palawan, Captain General.

Toomang-goong, Chief Justice.

Moollock Manderassa, Collector of the Customs.

Maharaja Lela.

Sabalmal.

Sawa Jan, Vice-Admiral.

Mannabeel, the same office as *Mannabee*, the first being the denomination of the office, when executed by a *Dato*, the last when filled by a plebeian. Governor of the Fort.

Officers not *Datos*.

Oranky Mallick. Rear Admiral. Tribune of the People.

Pangleema.

Mannabee.

Sarre Lama.

Sarre Bangsawan.

Sarre Rajah.

Nahib.

Hameel al Allam. Standard Bearer.

These officers, as must be the case, wherever there is no standing army, have a civil and military capacity; and he, who is a chief person in the former, has but an inferior rank in the last.

Bandahara in an officer superior to all others, but it is not easy to explain his duty, as what by the ignorance of an interpreter, and delicacy of the subject, I have not been able to obtain a distinct account of it; however, this seems certain, that he is next to the *Tuan Caly*, the supreme judge in important causes, which are determined by him, as inferior are by *Datu Tumanunggung*, and in conjunction with *Oranky Mallick*, empowered to displace a sultan, who governs contrary to the law.

However, as the government is so nearly popular, there is an office very remarkable, and extremely necessary, as such governments are naturally inclined to revolutions: this is the office of *Mamancha*, which is calculated to prevent all precipitate resolutions, for in all bechans, his assent is necessary to sanctify their legality, and 'till this assent passes, nothing done obtains the authority of a public act. But *Mamancha* has only an affirmative voice, so that he can scarce prevent any public resolution, though his office empowers him to mediate between the contending parties, and by delays to temper the disposition of malecontents. The rank of this officer is the same with *Raja Laut* and *Tulan Pallawan*, to whom the *Sultan's* power devolves in time of action. It is *Rajah Laut's* duty, to examine all foreign vessels, who arrive in the *Sulu Seas*, but this is generally performed by inferior officers.

There is one officer in their constitution, not only extremely important, but singular, since I do not recollect any thing similar to it in public governments, though it is to be found amongst the institutions of *Loyala*. This office is the *Maha Raja Lela*. It is generally said, the *Maha Raja Lela* is absolute, and beyond the reach of justice, so that even the *Sultan* cannot call him to account for any offence; such a power would be extremely dangerous in the constitution, and the only advantage in it would arise, from the example how necessary government is, to restrain the inordinacy of the human mind. But the description does not by any means convey an adequate idea of his office. He may be stiled the "Admonitor;" for it is his business, to exhort and reprove all officers, even the *Sultan*, when wanting in their public duty, in doing this, he is secure of indemnity, though his private person is equally, as others, exposed to punishment, where he is guilty of any crime.

Sabalmal may be termed the guardian of orphans, for according to the constitution, the estates of all persons who have no right-heirs, go into a public chest, which is entrusted to *Sabalmal*, who out of it provides for orphans till they reach their 15th year, at which age they are considered as capable of earning a livelihood, and therefore after they reach this period, he can no longer let them share of the public chest: the charge whereof, and the execution of *Mullock Manderassa's* office the present Sultan has taken upon himself.

Oranky Mallick is one of the most considerable officers in the

state, for a bechar of the *Sultan* with him only, is of force, though one, with all the *Datos* without his assent, is not: he is the chief agent in displacing a *Sultan*, nor can the election of a new one take place without his ratification: so that the *popular* is an *integral part* of the *Sulu constitution*.

Panglima is a term of military honour, resembling our knight-hood, obtained by some valiant atchievement, and bestowed by the *Sultan*; but it is also an office of more general use, the chiefs of the several districts being so stiled, and have almost an absolute authority. The *Panglimas* of *Sulu* are, as it were, aid de camps to *Juhan Pallawan*, they are a few in number, that dignity not being prostituted like *modern Knighthood*.

CHAPTER II.

Their religion and places of worship

The religion of *Sulu* being Mahometan admits no description in this work; but their places of worship claim our notice, not by their inward decoration, which is excluded equally from all; nor by their outward magnificence, which is remarkable enough in the Mogul empire, and other Mahometan countries; but from the meanness of them; for they are in fact nothing more than thatched sheds, open all round. It seems a point warranted by experience, that religion is but little attended to, wherever the temples are mean. Whether this be an evidence of the little influence of the priest, or of the small veneration of the people to the Deity, I shall not presume to decide; but it may be observed, that most of the *Sulus* are very ignorant of the religion they profess; though many are inclined to make the pilgrimage, had they a conveniency to do it, and however homely their places of worship may be, they are not without visitants, who, it would seem, by their vociferous declamation, intend to rouse a slumbering epicurean divinity. But the general behaviour would incline one to think, they imagine, "He, who made the Eye, is blind;" for no where is to be met more frequent instances of destroying his image! It is to be hoped, the influence of religion may have a good effect on their minds; and though, perhaps, as *Christians*, we ought to wish them of our persuasion; as politicians and men, we must be better pleased, to see them of any, than of no religious profession, though the introduction of Arts, Sciences, and Literature, may be necessary to modulate them effectually.

Their church government at the capital is composed of a *Tuan Caly*, who is supreme in civil, as well as canon, law, and resides at *Matanda*; one *Imaum*; four *Hatibs*, or lecturers, and four *Villals*, or cryers, to the public Masgid, or Mosque. Other small Mosques in different quarters of the town, called *Langal*, have an *Imaum*, but no lecturers, or cryers.

They are sometimes visited by *Serifs*, who are descended from *Mahomet*, and one of these, they boast, was their first Sultan. The respect which these itinerant priests meet with, in the *Mahometan Countries* in the *East Indies*, frequently induce impostors to pretend a descent from Mahomet, which is not easily refuted, as they have no auricular distinction, like the *Peruvian Incas*, and rather pretend to an infallibility in point of faith, than a miraculous power to evince their mission.

The clergy here, as in all countries, have considerable influence in government and private life: they are here also the repositories of the public records,* and law cases adjudged between individuals. The law, as in other countries, has swelled to many volumes, which are in great measure unmolested lumber, since there are no profest lawyers, who might benefit by *Briefs* as long as the annals of a century: these records would undoubtedly be worth examination, as the best, perhaps the only, means of attaining a perfect idea of their constitution.

The Sulus are inveterate to the *Spaniards*, and their faith; perhaps as much from the imprudent behaviour of the missionary priests, as from the abhorrence in which they hold some of the Roman Catholic tenets. Their antipathy to the *Spaniards* may be naturally referred to that animosity and mutual spirit of reproach, always found between neighbouring states: and that to the Roman Catholic religion, is in great measure, an extension of their hatred to the priests, who when permitted to have a mission here, presumed to make themselves umpires, and call in question the master's right to the slave, whom they converted.

Although the religion of Sulu be *Mahometan*, the most numerous portion of the inhabitants of this state are gentiles, and go under the general denomination of *Idan*: these *Idan*, whose ideas of a Divinity, seem as confined as the brutes of the field, claim the strongest attention of a humane mind, as this blindness makes them equally the objects of compassion in every view: the peculiarities of their customs and opinions will claim a place in another chapter.

CHÁP. III.

Language and Literature.

It would be going too far, to condemn, or approve, a language which is not understood; but I must own, the sound of the Sulu language, is not agreeable to my ear; it is said to have as great affinity to the *Bissaya*, as *Spanish* to *Portuguese*, and appears to be copious from the different appellations of quantity &c.

* I was at some time pains to obtain a copy; the person who promised this procrastinated till the moment of my departure, so that I had no opportunity to show it to any of my learned friends; who on being shewn it on my return to *Sulu*, laughingly told me the person had imposed the copy of an Arabian fable as the history of Sulu.

Thus, *Great*, is in the Sulu language, *Dakalo*, but they have various other words of magnitude, as *Māg-go*, *Taddal*, *Tarung*. *Baggal*. These are confined to distinct subjects, thus *Tarung*, expresses the *large* of fruit, *Baggal*, of Animals, &c.

Whether the Sulu language is the original dialect of Borneo, cannot be determined: though, from its relation to the *Bissaya* language, it is not improbable that it has, at least, an affinity to it; since it is beyond dispute, the Bornean empire extended over the *Bissaya* islands; but that these languages are derived from the *Malay*, seems very improbable: the intercourse with the *Malays*, and the use of that language, as the general means of conversation with strangers, will naturally account for the introduction of many Malay words, or words with affinity to Malay. But when the expressions of affirmation and negation are different, as well as those of numeration, and in common life, it seems inconsistent to suppose an identity of original; many examples would be superfluous, a few may be both useful and entertaining.*

Their assumption of the Malay characters may, probably, have introduced many words into those states, who have adopted them, than into the more remote which had characters of their own: it is conjectured that the Borneos had a character; for since the Bugis, the Javanese, the Tagalos, &c. have, there is little reason to doubt the Borneos had. And perhaps the distinct characters may point out the original empires, or sovereignties, into which the Oriental Polynesia was divided.

It does not appear, the Bissayas have any original character, though it seems evident, from circumstances mentioned by the Spanish discoverers, that the Mahometan religion had found its way there; in this we have an evidence to warrant the Bornean dominion, which perhaps comprehended also the Tagalos, whose language is said to have affinity to the Bissaya. In this case the Tagalo character is probably the ancient Bornean.

Had the first missionaries paid any attention to these enquiries, some information of consequence might be obtained, but it does not appear that there is any thing written on the antiquities of the Phillipinas, except Fr. Juan de Placentia's curious though concise Account of the Ancient Government and Customs (24th October, 1589). It is true, the Spaniards who have wrote of the Talago language, pretend they derived their characters from the Malays: these Tagalo characters have no similitude to the Arabic, or Malay characters, and therefore, if it means any thing, this opinion must countenance the conjecture above mentioned, as the Borneos may easily be supposed to be confounded under the general name of Malays.

Placentia, though he mentions the ancient Government of Datos

* We do not give these, as we shall hereafter publish a full Sulu vocabulary.—
ED.

and Barangayes, amongst the Tagalos, takes no notice of any Sultan, or Sovereign, amongst them.

The *Chronica de S. Gregorio*, (v. 1. p. 134,) tells us also, that the Tagalos have a Tradition of their being descendants from Borneo. Hence it seems probable, that the Bornean empire comprehended all the Bissaya and Tagalo provinces of the Phillipinas, though it seems to have extended no farther North.

Placentia derives the Tagalo term Barangayes, from the vessels in which, he supposes, the families, who peopled these parts, arrived. Without pretending to determine, whether there were any vessels of this appellation, amongst the Malays, as he alleges, it seems probable, as the Sulu Government, as well as most others in the neighbourhood, have *Oran kyas*, answering to the office of Barangayes, that these names, so familiar in sound, have the same origin; for although in the Malay language, *Oran-kaya* is literally a rich man, it is applied to the heads of the several towns and districts, where there are no superior officers.

Perhaps anciently Barangayes may have been the common appellation in the Bornean dominions, though it has now given place to the Malay term.

It does not appear, whether the Bornean empire was Mahometan or not, before its dissolution, nor can I determine the time this law got footing in Borneo; though the Portuguese, who visited Borneo in 1530, say, it then was, (*Lavanha* p. 380). It is reported that it was introduced at Celebes about the middle of the 16th century. And it seems to be allowed, the first Sultan of Sulu introduced the Mahomedan law there, though possibly the Bajows might then be Islam; wherefore it is not probable the Mahometan law was universally established, before the dissolution of the Bornean empire, for although when the Sulu Government was formed, there was, as there still is, a Prince at Borneo, I conceive his dominion was not then extensive. There is another evidence to corroborate the opinion, that Mahometanism, is of late introduction, as the *Idaan*, who inhabit the island of Borneo, are Gentiles, nay, some of the most considerable maritime places, on the N.W. part of the island, which were nearest to the capital, as *Kemamees* and *Tawarran*, are Gentiles to this day. However, it seems, from the Spanish discoverers, that the Mahometan religion had found its way into this quarter, though it did not universally prevail.

There is a very great variety of languages in the Sulu dominions. The *Tiroon* and *Idaan*, are equally foreign to the Sulu, and to each other: nay, particular districts have different languages, which, however, I rather suppose dialects of some of the others, than entirely distinct from them. The *Idaan* language is described to be a very soft and smooth one.

The learning of Sulu is very confined. They have adopted the Malay characters, and have a few books in that language, with which they are chiefly supplied by the Bugis. They have also,

it is said, Histories of Borneo, of an ancient date, and of Sulu from its original. There are a few who understand a little Arabic; but the greatest number, even amongst the most considerable, cannot write, so that their literature is a subject, which does not afford room to be diffusive.

They pretend, to have accounts of the inventors of Gunpowder and the Compass; however, they are totally ignorant of the Principles of Magnetism, and although they are good practical navigators, and are seldom without a compass in their boats, they have all these from the Chinese. Their names of some of the points are different from the Malays.

N.	Ootarra.
NE.	Timor Laut.
NW.	Heelagga.
E.	Timor.
SE.	Tongarra.
S.	Salatan.
SW.	Barat Dyar.
W.	Habbagat.

None of them had any thing like a system of knowledge; what little any of them has picked up, is very superficial; they seem to have an inclination to literature, from the sensible questions they have asked on particular occasions; though probably this disposition will remain uncultivated, from the difficulty of obtaining satisfaction to their enquiries.

CHAP. IV.

Their Manners.

It cannot be imagined that the same manners and customs should prevail universally, through so many countries as this state is composed of; very various are those to be found amongst different casts of the natives. This makes it difficult to give any general character, though if one were to be given to the greater part of the inhabitants of the capital, it must be raked out of the dregs of mankind, since words can scarce express an adequate detestation and contempt of their disposition and manners.

It is a common observation, that the Asiatics are of a more dissimulating inclination than the Europeans; but this is generally ascribed to the command they have attained over the passions, which has diverged them into this channel; but here there is an equal proportion of that brutal fire found in free savages, of the dissimulating disposition of the more humanized, and, perhaps, to the completion of their character, I may add, an adequate share of perfidious cowardice.

Murder, on the most frivolous dispute, is scarce held amongst them to be a crime; and indeed the consideration, that whatever is frequent, scarce stings the conscience, would almost destroy the

fundamental principles of innate morality, though at the same time it adds energy to the hand of Government, by evincing the benefit to society, of an executive power, to prevent, or restrain the inordinacy of iniquity, incident to the human frame, to custom, and to example.

Every man, not indeed by the law, but by custom, is in these countries his own avenger, by which the sallies of passion, often occasion the most enormous crimes, and entail inveteracy and bloodshed from father to son, for generations.

The most common cause of murder amongst them, is the fair sex, for as divorces are permitted to the men, and often bought by the women, there is wanting that cordiality of affection, necessary to bind so strict a union of marriage; and it often happens a man will divorce his wife, and, when she marries another, he will reclaim her, on pretence of the want of some formality in his divorce; and, though the probable suspicion often is held a sufficient cause for assassination, and scarce a night, which is the common time of these enormities, passes without a murder.

The histories of all times seem to evince the bad consequences to society, by a facility of divorce, and experience sufficiently refutes that innocent affection of the poet, that

—Half the cause of contest were remov'd,
If beauty could be kind to all who lov'd.

perhaps a mere speculatist would rather join with Sir Thomas Browne, and some others, in wishing the Deity had made a different disposition for continuing His creation.

Another custom, equally destructive to civil society, as it bestows a ferocity of disposition, is the power every master is vested with, regarding his slaves; which are by much the greatest part of the Sulus; these may be put to death with impunity, for the slightest, or even without, crime. When such licence of murder exists, there can be no expectation it will be held in that abhorrence its iniquity demands.

Another enormity, which evinces the malignity of disposition is the frequent theft of people, who are seldom to be redeemed, as the country is, in a manner, entirely destitute of public justice.

The laxity of public Government is more in all savage, than in civilized countries; under the first denomination, we may include in some measure the Bugis &c. But there is a very remarkable peculiarity between the Bugis and Sulus; which deserves to be mentioned, as it may tend to establish the character of each; the Bugis, in common with the greatest part of mankind, determine many disputes by single combat, but never avenge themselves by personal assassination; on the contrary, the Sulus have no idea of putting themselves on a footing with their antagonist, but always attack him in the dark, or off guard; we may allow the last to be

the most prudent, but it is, undoubtedly, the least honourable custom.

Many of the vices which disgrace this country, are, it is said, of late date, and do not yet universally prevail. The eastern part of Sulu, it is pretended, still retains the simplicity of ancient manners, and theft is unknown amongst them, they are the least polished, but are held the bravest on the island; Parang, on the contrary, is equally famous for theft, murder, and a pusillanimous disposition.

Some of the natives have acknowledged the ill-disposition of their countrymen, in a point where they are undoubtedly the best judges, though very many instances are not wanting to observation, in confirmation of the justice of their condemnation. This is in a mean invidious disposition, which is an enemy to industry and every virtue, for it is considered as sufficient cause of animosity, if any one, by good fortune, or assiduity, obtains a portion of property, or a degree of any virtue superior to his fellows; they exclaim, in that case, against him, with all the exiguous malevolence of envy, and take pleasure in doing him an injury; perhaps even in depriving him of life; such a disposition, of all others, has the worst influence on society, by discouraging every thing that is praiseworthy.

I may perhaps run the hazard of incurring the ridicule of some, if, to the other causes of the flagitiousness of manners, I add the want of religion amongst them, for although they are Mahometans by profession, they are extremely ignorant of that morality and justice which their law enjoins; indeed, few of them can read, and still fewer are inclined to study the Koran; so that they may possibly mistake old customs, for virtues, delivered down from their ancestors.

Human nature seems nearly the same in every religion and climate. Customs and accidents make, in particulars, an obvious difference, but, as the Psalmist says, "The imagination of man's heart is evil;" and at the bottom the generality merit an equal contempt and abhorrence; they who paint man in fine colours, either are deceived, or mean to deceive others; the only engaging ties in humanity are the few, the very few, who have souls expanded with the remains of virtue; these preserve the system, and are the link of society; and such are every where to be met with. I acknowledge such there are at Sulu, but in the same scarcity as in other countries; nor, when it is remembered, ten would have saved Sodom, will it be wondered, if I only mention by name Dato Saraphodin, Panglima Milaham, and to do justice to the memory of the dead, once Dato Mahomed Bandhara. Let us add, since

All our praises why should Lords engross,
Oran Ky Mallick, and Bahatol the old Sulu fisherman.*

* I am far from insinuating that none other of the Sulus deserved to come into

The vices common to ourselves, we have been accustomed to look on with partiality; those we are not accustomed to, we consider with abhorrence; this may perhaps be the reason of my opinion, that out of the dunghills of humanity, it would scarcely be possibly to scrape up a more infamous race than the Sulus. The only virtue they boast, is courage, which, unaccompanied with principle, is at best but negative, and in this instance doubtful. Honesty, industry, hospitality, are unknown to the mass of them, at least in practice, but they are distinguished by civil-dissensions, treacherous assassinations, vain-boasting, theft, laziness, dirt, envy, and dissimulation, or rather inconnected falsehood.

The Sulus do not, like the Mahometans of Hindostan, confine their women; on the contrary, they mix in society as in Europe.

There is a race of people, in some part of the Sulu dominions, on Borneo, so peculiar in customs and opinions, that they claim particular attention; these are called *Idaan*: it is proper, however, to observe, that what I know of them, is only from the reports of the Sulus.

The *Idaan*, of different places, go under different denominations, and have different languages; but in their manners and customs seem to be nearly alike: all objects, seen through different ends of the perspective, appear dissimilar, and none more than the people now under consideration.

The name *Idaan* is, in some measure, peculiar to those of the north part of Borneo; the inland people of *Passir* are called *Darat*; those of *Benjar*, *Biajoos*: the *Subanos* of *Magindanao* appear to be the same people; perhaps where the aborigines, in the several islands of the *Oriental Polynesia*, are not negroes, they are little different from the *Idaan* of Borneo.

The *Idaan* are reckoned fairer than the inhabitants of the coast; this has given rise to an opinion that they are descendants of the Chinese; however, this descent from the Chinese appears to have as little foundation in truth, as the story they tell in confirmation of it, "That the Emperor of China sent a great fleet for the stone of a snake, which had its residence at *Keeney-Baloo*; that the number of people landed was so great, as to form a continued chain from the Sea, and when the snake's stone was stolen, it was handed from one to the other, till it reached the boat, which immediately put off from the shore, and carried the prize to the junks; they immediately sailing, left all those who were ashore behind; though their dispatch was not enough to prevent the snake's pursuit, who came up with the junks, and regained his treasure." The origin of all nations is hid in the obscurity of fable; it is not therefore wonderful that a people, so uncultivated as the *Idaan*, should be unacquainted with their antiquity.

The proper *Idaan* language is described to be very soft and

this list; I only meant to express, that those named I knew, by experience, to be truly good men: whose words were truth.

smooth; but probably it is not very copious; as may well be supposed from the rudeness of the people, who are even ignorant of high numbers, and therefore when they go to war, being very numerous, they do not count their numbers by thousands, but by trees. They choose a large tree, and each man, as he passes, gives it a stroke with his weapon; when the tree falls they count one; they who follow pick out another, in like manner.

They entertain many very singular, whimsical, and absurd opinions; amongst these may be reckoned the destructive one, that all whom they kill, in this world, shall attend them as slaves after death. This notion, of future interest in the destruction of the human species, is a great impediment to an intercourse with them, as murder goes farther than present advantage or resentment. From the same principle, they will purchase a slave, guilty of any capital crime, at five fold his value, that they may be his executioners; the same superstitious opinions amongst them occasion frequent wars, and more frequent assassinations; this behaviour seems, however, rather to arise from simple prejudices of education, than inordinacy of disposition; for those who become Mahometans are remarkable examples of piety and virtue.

The same wise hand of providence, which maintains order in the natural world, extends its care to the moral; men, under the influence of such prejudices, must soon be extirpated, was no antidote to be found to this principle of destruction; the *Idaan* are very strict keepers of their oath, which they take, by pronouncing, in their language, some execrations against perfidy, and then cut a rattan; you do the like in yours; the friendship is then cemented with all the district, with whose oranky this oath was exchanged; they then consider you as a brother, and also every body related to you; if any one knows of such an engagement, and pretends to be a relation of the person, they will take his word for it, and behave to him in the same manner, as if they were under an oath to himself.

If the *Idaan* are ill-used at any place, they communicate the report very quickly, and will everywhere remove, as you approach; on the contrary, if well treated, they will flock to you from every quarter; they are extremely superstitious in signs, and though, if they engage to come to you by a certain day, they will not fail, unless these intervene, yet if they hear a bird, which they reckon unlucky, or or any thing of the like nature, they will return home; this makes their travelling always tedious and uncertain.

They are generally well acquainted with poisons and their antidotes; the famous Borneo poison, with which they poison their darts, is collected by them only, though the trunk, or hollow tube, through which they shoot these dirts, is a weapon common also to the inhabitants on the adjacent coasts. This poison is the juice of a tree, named *Ippu*; its effects seem to be very similar to those of the *Llana* and *Ticunna* of South America.

The Idaan have, amongst different tribes of them, many very whimsical religious tenets; Paradise is generally supposed to be a-top of Kiny-Ballu: Some, as those of Giong, think it is guarded by a fiery dog, who is a formidable opponent to the female sex; for, whenever any virgins come, he seizes them as his legal prize; but whatever women have been cohabited with in this world, he considers as unworthy of his embrace, and lets them pass: The fathers, however, of Giong do not fail to reproach their daughters, though not very severely, if they make a slip.

Others, amongst the Idaan, think the passage for men into paradise is over a long tree, which, unless they have killed a man, is scarcely practicable, perhaps for want of the slave's assistance. If prisoners are taken in war, it is said, a general meeting is called; when the chief gives the first blow, and then the devoted victim is struck with weapons on every side. It is reported, if a chief of their enemies be taken, his body is embalmed with camphor, and his eyes being taken out, two cowries are placed in the sockets, and his arms extended; forming a dismal spectacle.

People, who thus deform the image of their Maker, by estranging themselves from the dictates of reason and humanity, can scarce be considered as men, and are, in dignity, beneath the Oran-Outans of their neighbouring woods.

However, although these customs and opinions may raise abhorrence, the Idaan deserve rather to be considered as objects of compassion than contempt; as they seem extremely desirous of intuition, and entertain a just regret of their own ignorance, and a mean idea of themselves on that account; for, when they come into the houses, or vessels, of the Mahometans, they pay them the utmost veneration, as superiour intelligences, who know their Creator; they will not sit down where the Mahometans sleep, nor will they put their fingers into the same chunam, or betel-box, but receive a portion with the utmost humility, and in every instance denote, with the most abject attitudes and gesture, the veneration they entertain for a God unknown, in the respect they pay to those who have a knowledge of him.

If we add the custom of arranging human skulls about the houses of the Idaan, as a mark of affluence, we need not wonder at the terrible accounts of their barbarity, nor at the reports of Anthropophagi. That sometimes distress, and, on particular occasions, national anapathies, have induced men to eat of their species, are too strongly attested to be doubted; but that there is any race of men, who, eating human flesh as food, may properly be called cannibals, may well be questioned? I never have even heard, from any of the natives, of such people, to the Eastward of Sumatra, though it is reported some, as well in the Philipinas as Eastern Islands, are proud to drink out of the skulls of their enemies; opinions of this nature often arise from misconstruction, or accident, and ought always to be adopted with great caution;

perhaps, from a want of this consideration, arises the report of cannibals on Sumatra, positively averred by the English who have resided at Bencoolen.

CHAP. IX.

Commerce.

To understand this chapter, reference must be had to the geographical description, as it would be impertinent to repeat what has been said under that head.

It is necessary, in the first place, to give an account of the articles of commerce met with here; this is chiefly done from a list delivered by Sultan Bantilan, in January, 1761, though the quantities and rates are omitted; the former being in many respects indeterminate; the list in some instances being considerably deficient of what the country produces, and in others exceeding that produce.

It is necessary to take notice on the prices settled in the agreement, made in 1761 for a cargo, that the goods from India were to be received at 100 per cent on the invoice price there, and the Sulu goods received in return, were to yield 100 per cent on the Sulu rates, when sold in China; all deficiency to be made good by the Sulus, and all surplus accounted for to them: so that the rates at which they chose to deliver the goods, were not objected to as this experiment was meant to ascertain the actual value in China; and the conditions were sufficiently profitable, if no accident had happened to prevent the execution of this experiment: and in case a deficiency had happened, we might have derived, in political advantages, an equivalent for that deficiency.

I shall divide the statement of Sulu produce into four classes.

1. Articles of considerable value, but such as are either in no great abundance, or take little room on ship-board.

2. Staples, which must form the cargoes.

3. Goods, which may hereafter become staples; but, as in no demand, are at present in small quantities.

4. Some productions which may be useful to the commerce, but can scarcely be reckoned articles of trade.

FIRST CLASS.

Sulu Language.

Gold	Bu-awan	extremely fine and plentiful in Magidara and Tirun.
Pearls	Mutya	many of the finest water.
Tortoise-shell	Sisick	in great plenty.
Camphor	Capoll	in great abundance on Borneo.
Gum-aneml or cepal	Tenju	in considerable quantities.
Bezoar	Gulega	considerable quantities; the best worth at Passir, eight times its weight in silver.

Birds-nest	Saangan-Bu-ong	in great plenty.
Wax	Talu	
Plantain-cloth	Tinduk	
Marquisate	Massurung	
Lack	Ambalao?	little only.
Ambergris		little.
Civet		little.

SECOND CLASS. *Staples.*

Mother of Pearl	Tipye	
Sago	Landang	
Rattans	Uwy	
Canes	Malao	
Cowries	Busky	
Ebony	Atta-atta	
Seaslug	Baat	(called also becha de mer ; by Malays Tripang, in the Philipinas Balata.)
Cockles (called also manangky, and humba by Chinese.)	Kima	
Sharks-fins	Siketan	
Sea-weed called hysy by Chinese)	Agal-agal	
Betel-nut	Pulla	
Lakka-wood	Kaio-lakka	qu. logwood.
Dammer, or country rosin	Bulitick	

THIRD CLASS.

Of which large quantities may be had in some time.

Cinnamon	Manna	grows spontaneous.
Pepper	Mysa	
Salt-petre		
Clove-bark	Culit-lawang	
Ginger	Loya	
Sapan-wood	Sibucow	
Cacao	Cacao	
Dying-woods	Cudarang, Bankal, Nanka, &c.	
Sugar	Suckar	
Soft-dammer	Pute	
Wheat		
Rice	Bugaas	
Cotton	Kapaas or Gapass	
Sandal-wood	Kayu-chindana	
Red-wood		
Indigo	Ty-yung	
Coffee		

FOURTH CLASS.

Timber of various kinds, fit for ship-building, and all other uses in

any quantity, viz. teak, nara, lawawn or pune, black-wood, mahogany, malawi, bintangol, dongon, calaotit, palo-maria or Alexandrian laurel, banaba, &c.

Balibagu	of the bark is made small cordage exactly like hemp.
Gum-aty	excellent for cables.
Wood-oil	Caruang.
Earth-oil	
Cocoanut-oil	Labing.
Honey	Tenub.

The Chinese trade from Amoy to Sulu; in 1761, there were two junks; but the oppression they suffered was a great discouragement to the traders: In one of the junks, Sultan Bantilan had an interest, to promote which, on some frivolous pretence, he laid an embargo on the other junk, taking the rudder on shore: Dato Bandahara, and others, remonstrated on this conduct, which which was injurious to the community; for, if strangers had not protection and justice, it could not be expected that they would frequent the port, and consequently every one suffer, by having no vent for the produce of their estates: These representations being ineffectual, Dato Bandahara, Oranky Mallick and Panglima Milaham went on board the other junk, in which the Sultan had an interest, and brought its rudder also on shore, informing the Sultan, that when he discharged the one, they would release the other, but not till then: the Sultan was thus compelled to do the Chinese justice, to his own disgrace, but much to the credit of Bandahara, and his friends.

The Chinese cargoes chiefly consist of cangans, a coarse cotton cloth; of nankin cloth, called Cowsung; and cast-iron pans. Their returns made chiefly in pearls, mother of pearl, birds-nest, betelnut, sea-slug, cockles, lacka-wood, ebony, and agal-agal.

The Bugis also trade at Sulu, chiefly bringing the cotton manufactures of Celebes; but, in general, they only touch at Sulu in their way to Manila or other places; I am ignorant in what their returns are made, except in slaves.

The Sulus seldom go in their own vessels to foreign parts, except on predatory expeditions, making slaves of the poor helpless inhabitants of the Philipinas; although these piratical excursions are chiefly made from the outports, as the Sulus have not been at war with the Spaniards for some time.

The Sultan Bantilan more than once sent an ambassador to Peking; which was properly speaking a commercial speculation: for the emperor of China considers the presents brought by ambassadors as a tribute from a vessel; and the presents sent in return, being made with liberality, Bantilan found it a profitable commerce: His ambassadors always went on board the China junks to Amoy.

CHAP. X.

Their Weights and Measures.

It cannot be doubted the Chinese communicated their weights to all the adjacent countries; these are sufficiently known to Europeans: a pekul being equal to 133½ lbs. avoirdupois, and 4 lbs. being equal to 3 catties; 100 of which make a pekul. But as the Sulus have adopted some terms, not common to the Chinese, and corrupted others by pronunciation; I have in the following table, represented the Sulu weights, and their relation to the Chinese terms:

<i>Sulu Weights.</i>		<i>Chinese Weights.</i>		<i>Sulu Weights.</i>
10 Muhuk		10 Cash make	1 Candarin	{ 1 Ulandang or Chuchok
10 Ulandang or Chuchok	}	10 Candarins	1 Mace	1 Ammas
10 Ammas		10 Mace	1 Taile	1 Taile
16 Taile		16 Taile	1 Catty	1 Catty
5 Caties		(5 Caties)		1 Bubut
10 Bubut		(50 Caties)		1 Lacksa
2 Lacksa		100 Catties	1 Pikul	1 Pikul

The weights of the Bajows, in the Sulu Islands, are said to be heavier than the standard; however an implicit confidence is not to be rested in their dotchin; and as there is no absolute rule, for determining the difference, it is impossible to reduce them to a table.

The necessity of a current coin, is no how more obvious, than from the inconvenient expedients, they are obliged to make use of. Having no money, they reckon by sanampury, cangan and cowsung, or nankin: the first a term only, and the second a coarse China cotton cloth, which goes in payment of goods, and are reckoned equal to a dollar. In small payments they make use of paddy or rice in the husk; which rises and falls according to the plenty or scarcity of grain. In their accounts they sometimes reckon by Spanish money, but commonly by cang-gan and sanampury, of which the following is the rate:

4 Sanampury	1 Cang-gan of 6 fathoms long.
4 Sanampury	1 Cowsung of 4 fathoms.

The Cang-gan was formerly 7 fathoms long, but as the Chinese suffered by impositions here, they have debased the manufacture, and contracted the measure; which example the natives so well imitate, that it scarce happens a Cang-gan is found even 6 fathoms: This, added to the natural inconvenience of such a currency, makes them extremely desirous that a coin may be introduced, and also that a measure be fixed on, instead of the precarious one of a man's fathom and cubit.

The use of paddy as a currency, may perhaps have introduced

the custom of measuring instead of weighing, grain, and some commodities, as cowries, &c. They reckon

8 Panching, or $\frac{1}{2}$ Cocconut Shells	1 Gantang.
10 Gantangs	1 Raga.

The gantang of rice is reckoned to weigh four catties ; according to which calculation $2\frac{1}{2}$ ragas, or 25 gantangs, is equal to one pekul, and also to a cawan of Manila.

PART III.

ESSAY TOWARDS THE HISTORY OF SULU.

Every attempt, to investigate the history of the eastern nations, has a claim to attention from the uncommonness of the subject : the general ignorance, 'till very lately, was beyond credibility ; and though the thick cloud, which obscured the history of Hindustan, has, in good measure, been dispelled by some late tracts ; by the remarkable events, of which it has been the scene ; and by its having become the common topick of conversation ; yet the public continue still much in the dark, in regard to the countries, which lye farther eastward : this consideration has induced the author of this essay, to endeavour to give a clue to the history of Sulu, by which, hereafter, others may be enabled to pursue the subject.

Had the author been possessed of such a work, he would have been enabled to have gone much greater lengths ; but wanting some general heads, the conversations he had, were the less satisfactory and precise from his ignorance ; which did not permit the proper enquiries : Occupations also intervened, and the conversations, by which he at last attained to a tolerably exact idea of the present state of Sulu, were merely accidental, when, after long acquaintance, at times a free intercourse had opened the heart without reserve ; the author cannot but lament, that in so short a period, those who were the best able to convey the information, necessary to compleat the subject, have been swept off, since he first visited Sulu, in 1761 : the oldest were the best informed, and of these many have paid their debt to nature ; and now few are left, who have the knowledge of any remarkable events, but from second hand.

The author had great hopes of satisfaction, from the Sulu histories ; but here he met with frequent disappointments : promises he received many, but accidents prevented the completion of some, others were never intended to be fulfilled, and some were deceitful ; amongst the rest, after much trouble, and some expence, he received a book in the Malay characters, just on his departure from Sulu, described to be the history he required ; which upon enquiry, after his return, he learnt to be only the transcript of some Arabian fables. Hence, although the author does not relinquish his hopes, or pursuits, he can give little more at present, from the Sulus,

than a table of their princes; and a few circumstances, regarding the successions, and Spanish expeditions. The Spanish writers are what he must chiefly follow, though with the utmost care not to be led astray, by the errors which have crept into these writers, from their ignorance in the geography, and intestine history of Sulu: amongst others, we find mention made of the king of Tabitabi! had they been acquainted with the Sulu affairs, it would have been found, this was the same person, who was so near surprising Samboangan (*vide* *Lettres edifiantes*, v. 23. p. 397) viz. Mahomud Badarodin, who retired from Sulu, to Dungun in Tawi-tawi; and returned to the assistance of the Sulus, when they were attacked by the Spaniards.

Badarodin, it is true, might without much impropriety be called King of Tawi-tawi, as he is generally denominated Sultan Dungun, by the Sulus. But the manner the Spaniards mention it, naturally implies that Tawi-tawi and Sulu, were distinct kingdoms, which can scarcely be allowed, during Badarodin's life, to have been the case, and never was before, or since.

The chief object of this essay, is to evince the Sulu independancy, to which these historical anecdotes are only an introduction; and for this reason it has been thought expedient to make a separation of the antient and modern history; referring to the former all incidents which occurred before 1734; when the present Sultan succeeded to the throne; and to the last all the circumstances which I have been able to collect of the late transactions, whether regarding the Spaniards or others.

As the proofs deduced from original papers, will plainly evince the modern independance, it will excuse a discussion of the antient Spanish pretensions in this quarter.*

The present Sultan has promised the author a detail of all the circumstances since his first accession; particularly regarding the Spaniards, whose protection he claimed, and by whom he was afterwards put in irons.

The Marquis of Ensenada's letter, plainly confutes the Spanish allegation, in defence of their conduct, "that the Sultan was "detected, in illicit correspondence, and double dealing" were the proofs much clearer than they are, the most they could make of it, would be "the biter bit." As it is evident, from that letter, the Spanish plan was formed, before the Sultan had given any ground for their perfidy; although they were fairly out-witted, if not out-bullied, by the Sulus; for it is obvious that the Spaniards suffered more by the expences of the expedition, and the disgrace it did them, than the Sulus, by any mischief from the Spaniards: and, from a full knowledge of both, the author is convinced that the reduction and maintaining Sulu, under the Spanish yoke, is beyond the power of the Philippine government.

* *Vide* "full and clear proof that the Spaniards can have no claim to Balambangan," 8vo. 1774.

The reduction of the Moorish states, has been a favorite object in the Manila politics, ever since the Spanish establishment; but it has always been much easier effected in speculation, than practice; for many years past, the Spaniards have been losing ground; and, perhaps, arming the Indians is the only method of freeing the Spanish islands, from the invasion of the Moors; however, this is a step not very consistent with Spanish caution, and, perhaps, too dangerous ever to be attempted; this subject will particularly occur hereafter, and the author means to be very particular on this head, as it may be extremely useful, in case we pursue an interest in this quarter.

To Sulu, (which, as well as the Philipinas, was anciently under the dominion of Borneo) then an obscure place, a Bajow from Jehore, retired with a beautiful daughter, whom the Jehore Sultan wanted to place amongst his mistresses. The fame of this beauty drew many of the eastern princes to Sulu, and amongst the rest one from Java, who won the prize; executing the penalties enjoined by the father; which were, to introduce elephants, spotted deer, &c. the Javan making a voyage to Siam, for the purpose. He continued at Sulu till his death, which happened soon after, leaving his beautiful widow: some time after a Serif, driven hither by stress of weather, was compelled by the natives, to an agreeable penance, in the enjoyment of beauty and a crown; and from this descendant of Mahomet, the present Sultan is sprung.

The following is the list of their sovereigns, as they reckon them, but several intermediate have mounted the throne; either omitted, in the general list, as co-temporaries, or as usurpers; these are inserted here, but in an advanced line.

Sultans.

Sultan Serif.

Kam-al-Odin . . . son to Sultan Serif by the Bajow princess.

Maharaja Upu . . . son to Kam-al-Odin.

Pangeran Boddiman son to Upu.

Marahom Tang-a . . . son to Boddiman.

Maraham Bongso . . . son to Tang-a,

Marahom Karamat or

Bactial, called also Jal Alodin. . son to Bongso.

Sitecabil, called also Ampy. . Sahabodin's sister.*

Sahabodin. son of Bactial.

Jual Pallawan, called also

Sapheodin, . . Sahabodin's brother.

Mahomud Badorodin . Bactial's bastard son, by a Tiroon woman, generally denominated Sultan Dungun.

Mahomed Nassarodin, (1731) grandson to Sahabodin, by mother, commonly called Depatuan. He reigned 3 years.

* By Oranky Ogu, she was cousin and not sister to Sahabodin. A.D.

Mahomed Allimodin (1734) son to Badarodin, by a Soppen woman.

Marahom Mahomud Mo-i-Jodin, (1748) or Bantilan, Allimodin's younger brother.

Mahomud Allimodin II (1763) son to Bantilan.

Mahomed Allimodin I restored, 1764.

According to Sir Isaac Newton's computation of the reign of Princes, the Sulu state arose about the beginning of the 15th century, however, as Maharam Bongso was on the throne in 1646, the six Princes, including him, taken at 20 years, the highest of Sir Isaac Newton's computation, places Sultan Serif about 1526, and as Sulu was visited by the Spaniards in the Victory's voyage, 1521, probably the origin of the kingdom was not later, as otherwise it would scarcely have been then mentioned;* the long life of Bactial, will account for the exception, which follows to the Newtonian system of chronology.

Oranky Ogu gave to me, on Saturday 8th August, 1761,† the following account of the Sultans of Sulu which he had seen; Oranky Ogu was grandfather to Bahatol [or Bahalatol, as these notes call him] and must have been considerably above 100 years of age, as his grandson Bahatol, was reckoned to be 90 years old.

Sultans of Sulu.

Marahom Bongso.

Sultan Jal Alodin or Bactial.

Sitecabil, a female.

Saha-Boddin, son of Bactial.

Jual Pallawan, Boddin's brother.

Mahomed Badorodin, Bactial's illegitimate son by a Tirun woman.

Mahomed Nassarodin, grandson to Sahaboddin by his mother.

Mahomed Allimodin, }
Mahomed Mo-i-Jodin } Badarodin's sons.

"Sitecabil reigned four or five years;‡ her mother was sister to Bactial, and her father Bartammy, Rajah of Boyhan on Magindanao; Sahabodin was young when she reigned; she married a Rajah of Ilanon.

* Here it may not be amiss to correct an error of some Spanish writers, who confounding Jolo or Sulu with Jilolo, say the Sultan of it, united with the Spaniards and Tidore against Ternaté and the Portuguese, so early as 1526, A.D.

† The notes do not mark the month or year, but it must be August 1761, for the only Saturdays, on which the 8th of the month fell, from 1761, when I first visited Sulu, to 1764, when I was last there: were August 1761, May 1762, January and October 1763, and September and December 1746. In May 1762, I was at Madras. In January 1763 at anchor off Pandukon. In October 1763 at Manila: In September 1764, on the passage from Balambangan to Sulu, and in December 1764 in China. A.D.

‡ Another Report said 7 years.

"In Sahabodin's reign the Chinese first came to trade here.

"Badarodin' was made Sultan by his brother against the inclination of the people; he reigned long and governed well, but, although he was a great warrior, he was never successful; Nassarodin rebelled against him [in 1731] and he retired to Dongon [or Dungun on Tawi-Tawi.]

"In Badarodin's reign the Portuguese came twice hither to trade: Before this a large Spaniard from Batavia ran on shore and went to pieces.

"When Badarodin retired to Dongon, he carried with him the guns, of which the Chinese acquainted the Spaniards; who, above 30 years ago when Nassarodin reigned here came against Sulu; their fleet in all consisted of above 30 vessels; 3 galleys, 1 galleot, 2 frigates, 4 junks, and many small vessels.

"Sultan Badarodin hearing at Dongon of the arrival of the Spaniards by some Dongon people who retired from Sulu, prepared an armament against them; some Sulus who had departed before the Spaniards arrived retarded him, by reporting that there was no war: But, on gaining certain intelligence he came to Sulu, and the Spaniards retired: They had been above a month before the place; but, being repulsed in their first attempt to land, they never again landed: above 30 of the Spaniards were killed in the first attempt, five being whites; the armament consisted of about 20 whites, and a great many blacks: The Spaniards took the Sulu colours, and the Sulus the Spanish colours, when they landed.

"Nassarodin reigned three years, and then called to Sulu Allamodin, who succeeded his father at Dongon. Nassarodin died 8 or 10 years ago.

"Allimodin reigned here 20 years* The Spaniards then had colours on the fort; which was garrisoned by above 100 Spanish soldiers in the Sultan's service: There was a padre named Bastian, allowed to reside here, but no church.

"Allimodin was very severe, but generous, giving much, if but a little was asked; he used to walk round the fort, and if he found any body without provisions, he would send a supply early in the morning, and would order any houses he saw in want of repair to be repaired: Had it not been for this, his government would not have been endured. The Spaniards then traded hither; and 3 or 4 China junks annually."

[26th Sept. 1792. The circumstances come to my knowledge, of the history of Sulu, not being written out fair, cannot be at present laid before the public; as I have not now leisure to examine, and digest the notes that I have on the subject.

I have, however, added lists of the Bornean sovereigns, and of those of Magindanao, as I received them from the Sulus.]

* By his own Report to me, 16 years. A.D.

List of the Sovereigns of Borneo.

Marahom Tumbang Derumput, the first in their history about
Karamat's reign.

De Pulow.

Bongso.

Abdul.

Usseen, or De luba.

Di Bornai, or Appung.

De Patuan, or Saiph Odin, the present Sultan.

List of the Sovereigns of Magindanao.

Capitain Laut.

Wappat, named Ku-darat.

Pangeran Tidory.

Minulu Sarahamal Ulla.

Mowlana.

Annu wal.

Jaffar.

Malinug.

Sultan Hamsa.

Pongloc.

now reigning.

[July, 1792]

A. DALRYMPLE.

ANALYSIS OF THE ANCIENT ANNALS OF SIAM.

INTRODUCTORY NOTES.

1. The Siamese in their historical writings give to their country the name of Sayam prathet—country of Sayam, and of Muang thai—kingdom of Thai.

According to a number of learned Siamese whom I have questioned on the subject, their name of Sayam comes from the Sanscrit Syama which signifies a medium colour between black and white. In their bali language this word is written Sama, and has the same meaning.

The word Thai in the Siamese language signifies free. They took this name, according to their own account, in the time of one of their former kings called Ruang, who freed the nation from the yoke of the king of Camboja.

All the neighbouring people designate the Siamese under the name of Siam, pronounced a little differently according to the genius of each language. Thus the name of Siam was not invented by the first Europeans who visited this kingdom, as I think has been asserted by some authors.

2. The Siamese divide their country into two parts, the North and the South; they give the name of Upper Siam (in their language Muang nua) to the northern part; the south part forms Lower Siam (Muang tai), and as the kings of Siam resided in Upper Siam many years before establishing themselves in the lower division, the Siamese have divided their annals into two parts, one called annals of Upper Siam, and the other annals of the royal city of Juthia.

The analysis which I give here contains the first part of these annals. This part is full of fables, improbabilities, of anachronisms, and presents only a few historical facts. It seems to me, however, that this analysis will not be wholly useless, because it is not impossible that afterwards, by comparing this small number of facts with the histories of the neighbouring nations, and above all with the monuments which may be discovered in the ruins of ancient cities, we may be able to reconstruct the history of Siam, at least in part.

3. The Siamese have two eras which they sometimes employ conjointly, although the one is more particularly employed for religious matters, and the other for civil affairs.

Their principal era is that which dates from the death of Buddha Somanakhôdom. Our year 1848 corresponds to the year 2391 of this era, which consequently commenced 543 years before the Christian era. The Siamese give the name of Phuththa Sakkarat, which means the era of Buddha, to this era.

Their second era, which they call the little era, in their language Chula sakkarat, dates from one of their ancient kings, regarding whom they are not at all agreed, some saying that it is the king

Phra-ruang, and others Phaya-krek. This last, who they say reigned over Camboja, appears to have the preference. The Christian year 1848 corresponds to the year 1210 of this era, which would thus commence in the year 638 of the Christian era. This era is not employed in the manuscript of which I give here the analysis. The era of Buddha is only found in it, and as the Siamese have the practise of always giving the dates in figures, we can scarcely trust for these dates their ancient annals, on account of the mistakes which may have crept into them through the inadvertence of copiests.

Having given these few details, I will now proceed to the analysis of my manuscript.

Religious facts placed at the beginning of the M.S.

	Year before Christ.	Year of Bud- dha.
The Buddha Somana khodom died the 3rd of the full moon of the sixth month of the year Ma Seng or the Serpent	543	
The Indian king Oxat Satru (ajata satru) assembled the first Sangkhayanai or Buddhist council . . .		
One hundred years afterwards the Indian king Kala Sokkarat (kala Sokkaraja) assembled the second Sangkhayanai (Sanggayana)	443	100
In the year 218 of Buddha the king Sithamma Sok (Sri dhamma Soka) assembled the third Sangkhayanai	325	218
The fourth Sanghayanai was held in the Buddhist year 400 (the book does not say who assembled it)	143	400
In the year 965 of Buddha, the Buddhist Phra-phuththa khosa (Buddha ghôsa) preached the tham (dhamma) of Lanka (Ceylon) (in Camboja it is said)	after Christ 422	965

Commencement of the History of Siam.

Two brothers of the brahmin caste, who lived when Somana-khodom embraced a religious life, were both rûsi or holy men. The one was named Saxxanalai, and the other Siththi mong khon. Their nephews inhabited ten villages governed by a brahmin woman mother of phra-Saributa then the first disciple of Somanakhodom.

These two brothers seeing their end approaching, wished before quitting this world, to give their last advice to their nephews. Then the Rûsi Saxxanalai having called together the oldest persons of the ten villages, gave them instructions to live in peace together,

and to preserve the religion of Buddha. He commanded them to build a city to protect them from the enemy, and to chuse the most worthy amongst them for their king. He also recommended them not to neglect the sacrifice of fire. After having instructed his nephews, the rusi retired to a large mountain called Phukhao luang, where giving himself up to contemplation, he arrived at a high decree of sanctity. In the mean time the oldest Brahmin of the ten villages named Bathamma raxa having assembled the head Brahmins of the ten villages, it was decided that they should build a city. They quickly applied themselves to the work, the city was surrounded by walls two fathoms high and six halfarms length broad, forming an enceinte of 2,000 fathoms long by 1,000 broad. The work lasted seven years. When the city was finished, they built in it pagodas for the priests of Buddha, and temples dedicated to Siva and to Vishnu. These labours being ended, the two rusi after having gone to offer their obeisances to Phra in Savantheralok, (the god Indra), came to visit the new city, and gave to it the name of Savanthevalok in memory of the god Indra. They established the Bathamma raxa as king of the new city. He was the oldest chief of the ten villages. He took for wife a niece of Nang Mokhalin of the village of Hariphun xai; commenced to reign in the 500th year of Buddha, according to a prophecy of that god—(B. C. 43.)

The Rusi Saxxanalai then declared that he had hidden beneath the tree ton rang reng (the tree or nest of the vulture) a relique of the head and one of the fingers of Somanakhodom which he had himself cut at the time of the death of muni with another relique of the same, which he had received at the distribution made by the king Si thamma Sokaraxa (Sri dharma sokaraja)—that his nephews must go and seek for these reliques and place them in their new city. The rusi having given his final instructions to his nephews, rose into the air and retired to Phuphalu'ang where he died seven days afterwards.

The king Si'thammaraxa in obedience to the orders of the rusi, assembled the Brahmins, to search for these reliques and place them in the city. Five of the most skilful workmen were chosen to prepare the place destined to contain the reliques. When all was ready, the king and the Brahmins transported them with great pomp. The reliques were deposited upon a golden ship, which floated in a basin prepared for the purpose. The king constructed a phra thatu or sanctuary for these reliques; and the priests of Buddha ever since have gone there and worshipped. In this manner the ten village brahmins, (Thasa khama ten villages) descendants of Nang sari phrahmani mother of Phra: saributr first disciple of Somanakhodom, came to be the city of Savanthevalok. The reliques of Phra: saributr were placed in a chedi to the north. Hari phunxoi otherwise Pancha maxa kham (the five villages of the middle) was inhabited by brahmins all descended from Nang

mokhali phramani mother of phra : mokhala second disciple of Somanakhodam, and the reliques of this disciple were preserved in this place.

In the beginning the inhabitants of Utarakhamani (the villages of the north) were equally all of this caste of brahmins who carried on trade amongst themselves and observed the same rites.

The prince Thammasakuman son of the king Thammara and the prince Usokkhakuman both of them phikkhu had acquired a perfect knowledge of the sacred books of Buddha. Having both quitted the religious profession, their parents destined them to become kings. In consequence orders were sent to the inhabitants of Panchamaxapham to build a city, and a royal palace; and to come and receive the prince Usokkhakuman for their king. This prince married a lady of the brahmin caste and reigned at Hariphunxai, the name of the new city, under the name of Si thamma sokkaraxa, (sri dhamma sokka raja).

The inhabitants of Utarakham were also ordered to build a city. When it was completed persons amongst the brahmins went to receive prince Thammasakuman for the governor. This city took the name of Kam phoxa nakhan, otherwise Muang chung jang.

Orders also came to the inhabitants of Burakham (village of the east) to erect a city and palace, and they received for king the prince Singha kuman. Their city took the name of Phixa bun nakhon.

The kings of these four countries lived in the closest union and they preserved the strictest equality and good faith.

After these first establishments about five hundred years elapsed, during which seven generations of kings had succeeded the one to the other, until the king Phaya apayakham muni who reigned at Hariphunxai nakhon. This prince, celebrated for his piety, was accustomed to retire to a large mountain to perform his devotions. A Nakh (naga) attracted by his virtues, found him there one day. They had connexion, and the king before departing gave her his royal mantle and ring. The nakh returned enceinte to her subterranean kingdom. When the time of her delivery approached, foreseeing that that which she was about to bring forth would be a living being and not an egg like all the nakh, she went and was delivered above ground at the place where she had met the king. She there placed her infant with the mantle and the ring which she had received from the father of the child, and retired to her abode.

The infant was discovered by a hunter, who carried it with the ring and mantle, and entrusted it to his wife to be reared like an infant of her own.

Sometime afterwards the king causing a palace to be built, the inhabitants were ordered to attend in their turns to work for the king. The hunter also came there and brought with him his adopted child. As the heat was very great the hunter had placed

his child in the shadow of the palace to protect him from the rays of the sun, but the spire of the palace inclined as if to indicate the dignity of the child—the shadow of the palace appeared to fly. The king surprised at this prodigy, called the hunter and asked whose child it was. The latter said that he had found it in the forest and that he had brought it up as his own adopted child. The king then inquired if he had not found anything with the child, the hunter told that he had found a ring and a mantle. The king sent him forthwith to fetch them and having recognized them as the same mantle and ring which he had given to the Nakh, he had no doubt that the child was his own son. He gave a recompense to the hunter, and took the child into his palace. He called him Arunraxa Kuman and brought him up with another son named Riththi Kuman.

The birth of the prince Arunraxa Kuman had been predicted by Somanakhodom on the occasion which we are going to mention. One day Buddah being about to take his meal near the village panchamarakhm where afterwards the city of Hariphunxai was built, a nakh caused a spring of water to gush out in order that Buddha might drink and bathe himself. Buddha then predicted that the nakh who had done him this charity would supersede the Buddhist era in its thousandth year, and establish a new one, that its empire would embrace all the country watered by the river which had sprung up, and that all the kings of Xomphun tharib (jambhu dvipa) would render it homage.

The prince Arun raxa was born in the 950 year of the Buddhist era. The king Aphaiyakhm muni wished to give to his son a kingdom worthy of his destiny, and as there only remained a princess in the kingdom of Saxanalai or Savanthevalok he gave this princess in marriage to his son with this kingdom; and the new king took the name of Phaya Ruang. He built a great number of pagodas, and amongst others a temple and chedi in the place where the Rusi Saxanalai had formerly buried the reliques of Somanakhodom. This place was named Khao rang reng (mountain of the vulture's nest). All the kings of Xomphuthavib struck by the power of the new monarch, offered homage to him as had been foretold.

The king Ruang having attained his 50th year in the 1000th year of the Buddhist era, his superior merit acquired him a white elephant with black teeth. In this year, the same which was the year *ma me* (year of the goat), on the first of the sixth month he caused an assembly to be held of 500 Buddhist priests amongst whom was Phra phuth tha khosa of the pagoda Khao rang reng, to celebrate the establishment of a new era. The meeting took place in the temple Khokasing kharam in the centre of the city of Saxanalai. The kings of Xam phu thavib, that is, of Thai, Laos, Mou, Chin, Phama, Langka, Phrahm, went to the meeting.

It was then that the king Ruang gave the Thai alphabet, as well

as those of Xieng thai, Mon thai, Phama thai and Khom Xieng. The ancient writing of the Phra tham (sacred books of Buddha) was abandoned, and the books of religion were written alone in the Khom alphabet.

In the 1086 year of Buddha the king Ruang assigned lands to the pagodas for the maintenance of priests, a usage which has always prevailed since that time. The pagodas which received a share in this distribution were the Vat khokasing kharom, the Vat keu raxadithan, the Vat uthayan yai, the Vat khao luang, the Vat khao inaranya : vasi, and the Vat traiphum pa keu.

The king of China, called king of Makhatha, not having attended the meeting which took place on the establishment of the new era, the king Ruang resolved to take vengeance upon him. In consequence he set sail for China with his brother the prince Riththi kuman, and in one month favored by the gods they arrived safely in China. On the arrival of the Siamese king the sky covered itself with such thick clouds that neither the sun nor the moon could be seen. All China was troubled at this prodigy. The king of Makhatha assembled all his mandarins to consult as to what was to be done. He sent an officer to visit the coast, and ascertain if no enemies had come on that side. The officer after having examined all the coasts, could not perceive anything except a vessel nine fathoms long manned by Siamese. He quickly reported the news to the Chinese king, who recollecting that a prophecy said that two Siamese brothers would pass the sea to procure wives, that the one would be sovereign of all the Xomphu thavib, and would establish a new era in the place of the Buddhist era, at once knew that these two Siamese came to him. Convinced that it would be useless to resist them, he immediately gave orders to receive them with all proper honor. He rendered homage to king Ruang, placed him upon his own throne and gave him the princess his daughter in marriage. He caused a ship to be built to carry to Siam the princess and the presents which he made to his new son-in-law. When the rejoicings for the celebration of the marriage were terminated the king Ruang embarked with the princess and five hundred Chinese whom the king of China had given as a retinue to his daughter. At the end of one month the vessel arrived safely at Saxanalai for at this period the tide came up as far as this city.

Since that time Chinese vessels have come to trade to Siam, and brought there cups and dishes, and the Siamese then began to make use of these articles.

About this time the king of Xieng mai died leaving only a princess to succeed him. The nobles of the kingdom requested king Ruang to give them his brother prince Riththi kuman for their king. The request was favorably received. The king himself conducted his brother to Xieng mai and having married him to the princess installed him as king of that country.

The king Ruang having returned to his capital continued to reign with much glory. He did not hold himself upon his rank—he often went out without any retinue. He amused himself with flying kites and all other kinds of sports. He was accomplished in all and master of every science. The king of Camboja having sent a Cambojan to kill him, who had the gift of disappearing below ground when he wished, the king Ruang by the strength of his words turned this Cambojan into a rock, and also freed his subjects from the tribute which they were bound to pay to the king of Camboja every year.

One day the king Ruang flying his kite, the string broke, and the kite carried by the wind was caught in the spire of the palace of the king of Nakhon tong u. This king had formerly been a slave of the Siamese king, and bore the name of U. Protected by the gods he became king. The king Ruang running after his kite, and having arrived at the close of the day at the city of Tong u, rested in a vestibule of the palace, and during the night went and slept with the daughter of the king of Tong u without any one seeing him. In the morning he ordered the king U to come and assist him to recover his kite. He obliged this king to bear him on his shoulders, and not being able by this to reach the kite, he mounted upon his head. Having at last obtained what he wanted he proceeded towards his own country. But the princess having told her father of what had taken place during the night in his palace, he sent in pursuit of Ruang. He was caught and brought back to Tong u. They took out his intestines, without his being aware of it, and then let him go. The king Ruang on his return to his palace called his son the prince Pha sucha kuman, told him that he was going to bathe, that if he did not return, he had only to take the government of the kingdom. The prince thought that the king spoke in jest and made nothing of his words. However the king Ruang having thrown himself into the water on a bank of sand in the middle of the city plunged and disappeared for ever. At these tidings consternation pervaded the whole place. The prince Pha sucha kuman quickly acquainted the king of Xieng mai the brother of the deceased king, with this misfortune, who proceeded to Saxanalai, placed the prince upon the throne of his father and returned to his own capital.

A great officer named Trai pho pha nakh charged with the war department announced to the new king that the good fortune of Saxanalai had disappeared, that misfortunes were to come, and that it was proper to think of fortifying the capital. The king Phaya sucharat commanded this officer to make all the necessary fortifications. In consequence the walls of the city were increased, and forts were constructed of the proper strength to bear cannons. He similarly fortified five other cities of the first order and eight of the second. Couriers were established to carry the orders to the different cities. Orders were also given to

the city of Kamphoxa nak hon, and from thence to the cities of Muang Savang kha buri; Muang yang khiri; Lakhon khini; Enphini, Muang lek, and Muang sing thai, which were all under Kamphoxanakhon, to fortify themselves also. The town of Muangphiburiyanakhan now called Muang laphan, resorting under Huriya phun xai with eight other chief places of provinces were ordered to arm themselves and to guard the passes.

The king Phasucharat sent an embassy to the capital of China to request from his grand-father ten men able to cast cannons. The king of China received the request of his grandson favorably and sent him the workmen whom he required. The king Phasucharat then had 120 large and 500 small cannons cast. Since then there have been in Siam founders in samrith (a kind of bronze) and in thom pat (a kind of mixture, two parts copper to one of gold). The bullets were made of earth baked in the fire, and the king prepared every thing for war.

The first day of the first month (it is not said in what year) Phra chao thamma trai pidok king of Xieng sen commanded Maha up arat and the great officers to prepare his army. He put in the advanced guard the phaya of Xieng rai and of Xieng ru; the phaya of Xieng ngon and of Xieng tung were ordered to form the right wing, and those of Xieng nan and Xieng fang the left wing. The king Phasucharat having learned these preparations, speedily sent a messenger to the king of Xieng mai; he found the king Riththirat dead, and his son prince Phrah ma vadi reigning in his stead. This king immediately caused the inhabitants of Muang sakhon, Muang phre and Muang nan to enter Xieng mai, and placed bodies of guards at all the avenues. On his side the king Phasucharat also made all the inhabitants of the country come into the city of Saxanalai, and held himself ready for whatever might happen.

The king Si thamma trai pidok having placed himself at the head of his forces, proceeded towards Saxanalai driving before him the inhabitants of the country, and laid siege to the city. The two kings engaged in several very furious combats beneath the walls of the city, in which many were slain on both sides, the resistance of the besieged being as vigorous as the attack of the besiegers. In this state of things the bonze Phra phu th tha kho sa chan of the pagoda Vat phao rang reng grieved at the fate of so many unfortunate persons killed on account of the two monarchs, besought the two kings to suspend hostilities and to make peace. He was listened to on both sides. The king Phasucharat knowing that his enemy had declared war against him because he desired to have his daughter in marriage, gave him the princess; and peace was concluded between the two princes. The king Si tham ma trai pidok having obtained what he wished returned to Xieng sen with his new wife. He had two princes of this marriage, the one named Chao trai son rat and the other Chao xati kon; both renowned for their excellent qualities.

The king Si thamma trai pidok, remembering that formerly the Buddha Somanak hodom going about to collect alms, had sat down to eat his rice at a certain place under a tree called ton samo, resolved to build a city at this spot. He consequently gave orders to two of his officers the one named Cha nok rong, and the other Cha kan bun, to fit out five hundred carts to carry the articles necessary for the building of the city. The two officers having prepared the carts and all things requisite set out to fulfil the orders of the king, accompanied by a number of merchants. They first arrived at the city Muang lilomphon, passed the river Me nam ta nim; from thence they went to Phu pha luang, then to the city Muang savangkha bure, passing next the river Me nam trom kue noi (little arm) and finally arriving at the ground of the Brahmin village where the Buddha Somanakhodom had formerly collected alms. A river divided the village into two parts, the eastern part containing 150 houses and the western a hundred. The two officers told the Brahmins the intentions of their master whereat these greatly rejoiced and they quickly set themselves to the work. The labours were divided into three equal parts, the Brahmins undertook one, the thai another, and the lao the third. The work lasted one year and seven months. When all was completed the two officers entrusted the care of the city to the Brahmins and returned to Xieng Sen with their carts. Having given the king an account of the happy success of their journey, he was highly delighted and quickly assembled the princes and the nobles of his kingdom, to go with him to celebrate the dedication of the new city. He placed at the head of the advanced guard of his army the two Cha who had erected the city, sending them on before to open up the road, the phaya forming the right and left wings, and the two princes Chao trai son rat and Chao xati sakhon were ordered to form the rear guard. The king and queen put themselves in motion with the army and arrived at the new city on the 6th of the first month. The king immediately consulted the Brahmins as to the name which should be given to their city. These having declared that his majesty had arrived under the constellation phi sa nu it should receive that name. The king then named it Phi sa nu lok, it was also named Ok ha buri, east and west, in memory of the Buddha Somanakhodom having there asked alms; it still bears the name of Chan ta bun. The king built several pagodas there, as well as the phaya who had accompanied him. He wished also to cast three phuth tha rup (image of Buddha) in Sam rith thi (a kind of bronze) to place in the pagodas which were being built. He called for this purpose five able founders of Saxa na lai and one of Hariya phunxai. But in spite of all their endeavors they could not contrive to cast even one. The king grieved at this, offered his vows for the attainment of a successful issue, he also engaged the queen to offer hers for the same purpose. She then besought that in virtue of the merits which she had

acquired in her preceding generation by having made a statue of Buddha in pure gold, and for many other good works of the kind, the casting of the three statues might succeed to the wishes of the king her husband. The efficacy of these vows, from the great merits of the queen, made themselves felt even to the abode of Phra: in (the god Indra) who speedily arrived to the assistance of the founders. These having recovered courage, aided by the power of Phra: in succeeded at last in casting the three statues such as had been desired by the king. Of these three statues, one received the name of Phra: xina: raxa, the other of phra: xina si, and the third of phra si sa sada. They were placed in the temples which had been destined for them in the midst of the city of Phi sa nulok. The king then built a palace in the western part of the town; then he sent for the princess Sun thon thevi daughter of the king of Saxa na lai, whom he gave in marriage to his son Chao Kraison raxa, whom he lastly placed on the throne of Lophaburi. The king, the princes and the phaya then celebrated for seven days the dedication of the temples and of the phuththarup. Every thing being ended the king and his retinue took the road for his capital in the same order in which he had come.

The prince Chao xatisakhon was of an extraordinarily proud character and could not endure to be surpassed by any one. He resided with his brother the king Phra: Chao Kraison Raxa. He also built a town five leagues from Lophaburi, which he named Sena Raxanakhom, and gave it for a king the prince Chao Duangkriengkrisaxa.

These ancient annals are from Saxanalai. The series of the kings of this country is not yet ended, many reigns are still to come of the series.

The king Sithamma Traipidok gave the government of the city of Xieng Rai to his son Chao Xatisakhon, and died at the age of 150 years on the 20th of the sixth month of the 1500th year of Buddha. The officers of the deceased king immediately made known this event to Chao Xatisakhon at Xieng Rai, who came to perform the obsequies of his father, and reign in his stead in the city of Xieng Sen. After this reign there were other seven successive reigns, after which the good fortune of this kingdom declined, and troubles arose on every side.

KINGDOM OF PHAYA KREK.

In the times when the religion of Buddha Phra: phuththa hasobthosaphon was still observed, there lived a holy personage who had built a great number of pagodas and other sacred places, and made abundant alms to the talapoins. After his death he went to reside in the heaven of Phra: in, and then was born again amongst men. He was born in the village of Aroxa kham in the caste of Sethi.

The name of Chao Suthasana Kuman was given to him, five hundred Sethi formed his retinue. The virtue of his merits made itself known even to the abode of Phra: in; who created for him a palace of gold, with inclosures ornamented with all kinds of precious objects, with delicious gardens and tanks in which grew the five kinds of lotus. The god also created a city surrounded by seven inclosing walls of gold, which was named Muang inthapatnakhon. The Sethi with one accord established Chao Suthasana king of this city. At this epoch the Buddha Somanakhodom still lived, and one day, having come to gather alms in this capital, a poor beggar covered with leprosy took in his cocoanut with his leprous hand a little rice which he offered to Buddha; but his little finger being detached from his hand remained with the rice in the dish of Somanakhodom, who having stopped to take his meal, contented himself with removing the rotten finger of the beggar, and fed himself with the alms which he had given him. After his repast the Buddha prophesied that this mendicant in recompense for the good alms which he had given, would one day reign in this city, abolishing the ancient era and establishing a new one.

The king Suthasana then reigned in the city of Inthapatnakhon. He died at the age of 150 years on the 21 of the sixth month of the 1,600 year of Buddha. His descendants reigned in his place, during many generations. But the merits of this family dwindled away, the city lost all its original splendour, and all the precious objects with which Phrain had ornamented it disappeared. At last under the reign of Phaya Khotama thevaraxa the last descendant of Sutha Sana there was a rumour throughout all the country that the man of merit was born, and the capital was about to recover its pristine lustre.

There was at that time a poor beggar crippled and deformed, who had been born so, because formerly he had not kept the Buddhist commandment, nor made alms. This poor wretch having learned that the man of merit was about to come, crawled to the road to have the pleasure of seeing him. Phra: in under the form of a man and mounted upon a splendid horse, pursuing the same road encountered the beggar and asked him why he was thus crawling. The man answered that he was going to see the man of merit, Phra: in then requested him to take care of his horse and effects, while he went away for an instant. The beggar told him not to be long. Phra: in replied that if he was tardy in returning, the horse and effects should be his, and went away. The mendicant wishing to know what the bundle of effects which had been entrusted to him contained, opened it, and found in it a vial of oil of a divine virtue. He immediately rubbed the deformed part of his leg with it, which straightened at once. Charmed by this marvellous effect he rubbed all his body with it, and became on the instant the most beautiful of men. Not at all doubting his good fortune, he immediately said to himself "most surely it is I, myself, who are the man of

merit who is expected." He immediately took off his rags, arrayed himself in the divine robes which the god had left with him, put the crown upon his head, took the sceptre in his hand and mounted the horse of Phra : in, which at the same moment rose into the air directing its course towards the capital. As for the king Phaya-khotama thevaraxa, knowing that the man of merit would speedily appear, he said to himself: "if he comes through the air I will seek my safety in flight." And in effect having seen him in the sky coming towards him, he took himself to flight with the greatest haste carrying with him the queen, his children, his officers and forty thousand of the people. He went towards the west seeking for a fit place in which to establish himself with his people. Phra: inth then settled the beggar, become the most beautiful of men, as king of Intha patnakhon under the name of Phyakrek. He married a princess of the family of king Khotamalhevaraxa. In the 1000th year of Chula Sakkarat or the little era, he established a new era and abolished the ancient. His descendants successively ascended the throne during many generations, but their good fortune was always on the wane.

The king Khotama thevaraxa, who went towards the west, arrived at the end of fifteen days journey in a place inhabited by brahmines named Ban Kothanajakham. He was well received by the inhabitants, who having informed him that Somanakhodom had formerly begged alms in this place, the king was filled with joy and there built a city which became his capital. He had a son to whom he gave the name of Chao Phala Chana kuman. This prince succeeded his father and took the name of Chao Vaiyaksa : afterwards he took the name of Chao Rhota : Bong. Having built the city of Muang Phra : Phichitr he took the name of Phaya Bhota : Bong ; when he had built the city of Muang Phixai, he took the name of Phaya Mulek.

In the city of Phaya kre, after many generations the good fortune of this family having disappeared, there only remained a princess. Then two sethi, the one named Xodok sethi and the other Kala sethi having taken counsel with the other sethi placed upon the throne the son of Xodok sethi named Chao Uthong who married the hereditary princess. This prince reigned 7 years in the city of Inthapatnakhon. A contagious disease which seized both men and animals, being prevalent in the country, the king Uthong abandoned the country with all his people and went to seek a fit place elsewhere in which to build a city and establish himself. After a great many days journey, he arrived at a river in the midst of which he found an island of a round form. The king having caused boats to be made passed over to the island with his followers. He there found a dobot or penitent, who told him that the Buddha Somara Khodom had formerly come to this place and had predicted that in the future a city would be built there. The king received this news with joy and resolved to

establish himself upon this island. He caused walls to be built surrounded by exterior fosses, built a palace for himself and houses for his officers, and settled himself in this new city, which took the name of Si' Ayo Thaya (this is the ancient city of Juthia.)

(Here the ancient annals finish)

C. P., P. A.

THE PIRACY AND SLAVE TRADE OF THE INDIAN

ARCHIPELAGO.

THE object of the following notices is to bring together a number of facts, which will give our European readers a more practical knowledge of the nature and extent of this dreadful scourge of the Indian Archipelago than any general description can convey. They are mostly selected from those which have come under the notice of the English and Dutch during the last thirty years, and the sources from which they are chiefly drawn are the Singapore newspapers, and the *Moniteur des Indes Orientales*.

Piracy is universal throughout the greater part of the Indian Archipelago, and there are very few of the native rulers, not under European influence and control, who are not more or less participant in it. At the present time they are more cautious in allowing their connexion with piracy to be known, as the vigorous measures adopted the Dutch, Spanish, and English, have shown that these Governments are earnest in the determination to repress the evil, and that the power which they are able to bring into operation for that purpose is such that no native armament or means of defence can long successfully withstand it. Although piracy is less rampant at present than it was a few years ago, and the independent or quasi independent native states of the Archipelago have generally come into engagements with one or other of the European powers to aid in its repression, and have therefore renounced all open intercourse with the pirates, it is by no means generally extirpated. At any temporary lull or cessation in the partial and unconnected measures of the Europeans against them, the pirates re-appear in their old haunts with undiminished boldness and force. Only recently the China sea has at various points been the scene of extensive piratical proceedings by both Malay and Chinese pirates, the Borneo pirates have been active, and even in the direction of the Philippines, notwithstanding the severe and exterminating proceedings of the Spaniards in the Sulu seas last year, they have begun to renew their former depredations. It is only by a persevering, continued and combined action against piracy that the European powers in the Archipelago can hope to keep it effectually down. Vigorous efforts followed by lengthened periods of inaction, have been proved over and over again to be inadequate, and it may be emphatically stated as the result of the experience of the European powers for more than a century that all measures and expedients against piracy have failed from the want of a properly organized system *always in operation*.

Various means have been tried by the Dutch with the purpose of checking piracy. Thus so far back as the year 1705 we find them regulating the numbers of the crews and passengers of native vessels, and the arms they were to carry. In 1751 they had

cruise or gun boats, aided by others fitted out at the expense of some of their native allies. In November 1769 the *Sea Lion* having a crew of 24 cruising in Lampong Bay in the Straits of Sunda, engaged a piratical prahu of Mandhar, having on board 48 pirates, who carried the cruiser and murdered all on board. By a resolution of 25th February 1755, the measures formerly adopted were re-enacted and the native princes having relations with the Dutch company were besides invited to furnish their vessels with proper passports, shewing the size of the vessel, the arms and the number of the crew. The passengers were also subjected to certain regulations. In place of cruisers like venetian galleys as formerly, a description of vessels capable of being impelled both by sails and oars, and called *millepedes* were introduced, having six of the crew European, and the rest natives. Explanations were at different times required from the Sultans of Bantam, Johore, Pahang, and other native states suspected of complicity in the proceedings of the pirates, and of buying their prisoners, and severe measures against them were threatened in consequence. In 1806 it was ordained that not only should passes be withheld from vessels of the description called *Penjajap*, *Kahap* or *Balloor*, or others of a similar construction, but that whenever they entered any roadstead, harbour or bay where the Company was established they should be seized as piratical vessels even although furnished with a pass from a native prince or chief. About this time a merchant vessel in which were two Dutchmen, named Phefferkorn and Wensing was attacked in the Straits of Banca by forty pirate prahus. Seeing no chance of resistance or escape, they allowed a great number of pirates to board and then blew up the ship. In May 1807 the cruiser of war *de Vrede*, Lieut. C. Beckman, was attacked in the roads of Indramayo by seven piratical vessels each having about 100 men. After some resistance the greater part of crew took to the boat and made for the shore, Lieut. Beckman and his second in command Stokbroo threw themselves into the sea, at the moment the pirates boarded; the first was drowned but Stokbroo fell into the hands of the pirates who shaved his head, stripped him of his clothes and carried him to the Lampongs, where he was subjected to all kinds of bad treatment, and even threatened with death. He was offered as a present to the prince of the Lampongs, illused like the rest of the slaves and forced to the meanest employments. After seven months of suffering he was sent to Linga, sold to the prince of that island for 30 Spanish dollars and carried to Rhio. He was here fortunate enough to find a Chinese named Baba Tan Lian Seeng, the owner of a brig which traded between Rhio and Java, who bought him for fifty dollars and took him to Samarang. The Chinaman refused to receive any recompense for this generous action, but Mr Stokbroo having afterwards become assistant Resident at Japara, Lian Seeng whom he called his father paid him a yearly visit, when

he was treated with every mark of kindness and attention. Mr Stokbroo died in 1844 but Lian Seeng was still alive in October 1845. During his three years administration from 1808 to 1811 Governor General Daendels incessantly laboured to oppose the pirates and protect the maritime trade, and as much as circumstances permitted followed the measures of the Company for that purpose. In 1810 he fitted out a flotilla of 40 armed prahus with the special object of protecting the coasts of Java. At the commencement of that year an English brig the *Fly* was visited off Sumanap by some natives under pretence of trading, and who after massacring the commander and the steersman, made themselves master of the vessel. The Governor General Janssens by décret of 6th June 1811 gave a portion of the prize, and the booty to the captors of pirates, and laid down certain rules for the trial of pirates and their accomplices. During the English administration in Java the coasts of that island were greatly infested by pirates. In March 1812 they were vigorously attacked by the English schooner of war *Wellington*, Captain Cromey, aided by two gun boats and six armed native boats. In the month of May following the pirates had an engagement with the armed boats of the English man of war *Modeste*. Numbers of pirates frequented the waters of the island of Kangean, and made descents upon the land. The *Coromandel*, having grounded on the coast of Borneo, was taken and burned by the pirates. The *Matilda* sighted 17 large piratical vessels, and the *Helen* encountered a vessel in the Straits of Banca manned by about 80 pirates who attempted to board her, but were driven back by a well sustained fire. The *Nautilus* in May 1813 reported that a young Englishman Thomas Brooks was at Koti (Borneo) having two years previously been taken by pirates who had plundered his vessel. Three Europeans, two Chinese, and five Bengalis, who formed part of the crew were murdered and the rest sold as slaves. In April 1814, Captain Hall, commander of the cruiser *Antelope*, reported that he had seen 80 piratical Linga boats in the Straits of Banca, which he had chased with the assistance of some armed boats.

In Sir Stamford Raffles' letter on the state of the Indian Archipelago addressed to Lord Minto in 1811, we find numerous allusions to piracy and slavery. He notices the general prevalence of piracy on the Malay coasts, which he describes as "an evil of ancient date, and which has struck deep in the Malay habits. The old Malay romances, and the fragments of their traditional history, constantly refer to piratical cruises." The sources of slavery in the Malay countries, according to Raffles are chiefly the following:—piracy, captivity in war, man-stealing and the system of slavery recognized by the Malay codes for various offences and for debt. He gives numerous details on the subject. He states for example that about 50 year's previous to that time the Sulus were much devoted to commerce and that the English

had a commercial resident in Sulu for some time, about the period of the first settling of Balambangan. Civil commotions had been frequent subsequently, and the breaking down of the government had covered the Sulu seas with fleets of formidable pirates. The great island of Mindanau, he remarks, is the original source of the Lanuns, the most formidable of all the eastern pirates, and who have in every age been greatly addicted to piratical practices. The Sultan is of the islamite persuasion but the great mass of his subjects are pagans, in almost every respect similar to the aboriginal inhabitants of Borneo. The Bugis are well known at the present day as the most active traffickers in slaves in the Archipelago. Raffles ascribes their devotion to this branch of trade to the interference of the Dutch who fomented civil wars amongst them and excited rebellions and commotions in the different states, so as to weaken and undermine and in many cases altogether to overthrow the power of the native governments, whose subjects were thus exempted from control and left in a great measure to follow lawless courses. The rigid monopoly maintained by the Dutch of the spice trade and other branches of commerce, formerly principally carried on by the Macassar and Bugis tribes, also tended to demoralize these nations, who were forced to expend the energy and love of enterprise which has at all times so peculiarly distinguished them above all the other natives of the Archipelago, in less commendable pursuits, amongst which piracy and slave dealing held a principal place. Raffles also noticed the evil influence of the Arabs, through whom in former as in latter times such a large proportion of the trade of the Archipelago was transacted, and whom he justly characterises as very frequently concerned in acts of piracy, and great promoters of the slave trade. The words of Raffles in reference to piracy and the slave trade in the Indian Archipelago are as applicable in the year 1849 as they were in 1811. "The practice of piracy however, is now an evil too extensive and formidable to be cured by reasoning, and must, at all events, be put down by a strong hand; though precautions against its recurrence may be taken in the system which shall be adopted with regard to the Malay states, by rendering every chieftain answerable for his own territory, and punishing in an exemplary manner refractory chiefs."

The kingdom of Johore was distinguished for the piratical habits of its inhabitants. From the Sultan downwards all were more or less engaged in piracy. The peculiar nature of this kingdom gave great facilities for the pursuit, its innumerable islands and creeks covered with thick screens of mangrove gave effectual concealment, and enabled them to lie in wait for the merchant vessel or prahu passing through the narrow straits. A deadly enmity is said to have prevailed between the Johore pirates and the Lanuns, so that when they met at sea, either would leave a vessel which they might be attacking in order to engage their enemy. The Johore empire maintained the reputation of being highly pira-

tical, until the two European settlements in the midst of it, the Dutch at Rhio, and the English at Singapore, led to a change in the habits of the rulers, and also of the people to a considerable degree, although it was not until recent times that some of the most noted strongholds in the immediate vicinity of the European settlements such as Galang were broken up. Even yet there are scattered here and there both on the mainland of Johore, and amongst the islands which formed part of the ancient empire, small piratical communities which carry on a very annoying warfare against the small trading prahus which cover the seas in the neighbourhood of the European marts, especially of Singapore.

In 1818, we find in a report of Muntinghe, commissioner at Palembang and at Banka, numerous details regarding the piracies carried on by the inhabitants of Linga, Rhio, and Biliton, all parts of the Johore Archipelago, the east coast of Sumatra, Carumatu and the west coast of Borneo. The piratical forces of Linga were under the command of subaltern chiefs of the Sultan of Linga, one fleet commanded by two brothers styled Orang Kaya Linga, consisting of 18 vessels and 400 men, and which had three points of rendezvous, Sakanah, Barok and Banachoong and the other under the command of Ungko Tamonggong, consisting of 48 vessels and about 1,200 men, which had seven places of rendezvous, Galang, Timian, Pulo Bocaya, Salat Singapura, (the Strait of Singapore) Sughi, Pakako and Bollang. These chiefs did not go upon the cruise themselves but fitted out the expeditions, furnishing the necessary provisions, stores and arms, and received repayment after a successful cruise with a profit of 100 per cent. The European arms became the prize of the Sultan, who could also select such other part of the spoil as he chose at a low price. These pirates every year undertook a regular voyage, of which the route was well known, and so calculated that they should always have the advantage of fair winds and currents. They set out towards the close of the western monsoon, or even during the months of December or January, and directing their course by the Straits of Sunda, towards the southern coast of Java, bore up at the commencement of the east monsoon. They then passed through one of the Straits to the east of Java, and ran along the eastern and northern coast of Java, which they infested till the commencement of May, when regaining the offing of their first route, they took the road to their coverts pillaging in passing the shores of Banca and Palembang. If they made an important prize they returned at once, but if as often happened, their voyage was unfruitful, they continued to infest these coasts until the close of the east monsoon, when they invariably regained their lairs, with or without booty. This they sold to the Chinese and other traders who came to Linga at a handsome profit. When prevented from proceeding on their piratical cruises, the pirates betook themselves to fishing for agar agar and tripang, a means of livelihood still followed by

the inhabitants of Linga, and who yet occasionally diversify their piscatorial pursuits by a little piratical outbreak. Before the European gunboat is on the spot they have again subsided into the appearance of peaceable fishermen, so that detection is very difficult. The pirates of Reté upon the coast of Sumatra, between the rivers of Jambi and Indragiri, were a race entirely distinct from the people amongst whom they were settled. They were all descended from the Lanuns. They had first come to that part of the Archipelago by invitation of the Sultan of Linga to assist him, in a war with the Dutch E. I. Company. The strength of the Reté establishment was calculated at 1,000 men capable of bearing arms. The vessels were 10 or 12 in number of from 16 to 20 tons, and carrying from 50 to 80 men, and each having a large and two smaller pieces of ordnance. The descendants of these Lanuns are still to be found at Reté, but they are not distinguished for their piratical exploits like their fathers. Siak also sent out a small number of pirates. The island Biliton had two races of pirates belonging to it, who lived entirely on the water in small prahus covered with mats, forming a class entirely distinct from the inhabitants of Biliton. The prahus in which they made their piratical expeditions were different from those in which they lived with their families. One of these races the Suku Juru had fifty small family prahus, and four piratical prahus. The other race, the Orang Sekat had two hundred and thirty small prahus in which they resided and eighteen piratical prahus. These latter did not exceed four or six tons in burthen. The island of Carimater had two piratical prahus. The Sultan of Matani on the coast of Borneo had three large piratical prahus of from 10 to 12 tons each, which yearly, after a voyage towards the coast of Celebes in the western monsoon, made three expeditions to the coast of Java.

In 1818 a treaty was concluded by the Dutch with the Sultan of Linga, in which he solemnly engaged to repress with all his power the piracy in his states; in 1817 a similar treaty was made with the Sultan of Banjermassin (Borneo); and by the treaty with the Sultan of Pontianak in 1819 the Dutch government engaged to maintain a fleet of small vessels upon the coast of Borneo to protect and encourage commerce. Similar engagements were made with the Sultans of Mampawa and Sambas, and with the native chiefs of Menado (Celebes) and piracy in the latter place was placed under a special judicature.

These measures had become of the last importance. In May 1819, for example, the schooner *Lucifer* was attacked near the Boompjees islands, about twenty leagues from Batavia, by three piratical vessels, four others being a little off ready to lend assistance if necessary. The schooner only escaped by means of good breeze. In the same month the merchant brig *Susanna Barbara* was attacked by five pirate prahus in the offing of Indramayu close to the coast of Java, on the voyage from Batavia to Tagal. They

summoned the commander to surrender but he continued on his course under the fire of the pirates, and at last hit one of the boats which threw them into confusion, and they ceased the pursuit for a time. They however silently followed the brig during the night time, and in the morning gaining upon her they asked if it was the same which they had engaged the previous day. On the commander answering that it was, they again summoned him to surrender. As he did not seem inclined to comply they again opened their fire but without any other result than making holes in the sails and damaging the rigging a little. The brig would undoubtedly however have fallen into the hands of the pirates had she not managed to keep them off by a well directed fire until a breeze sprung up which carried her beyond their reach, and it was only on her coming to anchor in the roads of Tagal that they abandoned the pursuit. In the same month the cruise boats had an engagement with pirates near Samarang in which Capt. Stout lost his life by the bursting of a gun.

The island of Banka appears to have been peculiarly exposed at all times to the ravages of pirates. In the report on this island by Dr Horsfield* will be found a full account of the successive attacks made upon it and which "gradually effected almost the complete ruin of the island." They are said to have arisen from the war in which the Dutch had been engaged with the princes of Rhio and Linga. The first attack was in the year 1789 by the Malays from Siak, formerly a dependency of Johore, on the settlement of Klabbet-lawa, which they surprised, and from which they carried away a large quantity of tin, and the most valuable effects of the inhabitants. A second visit was paid to it a few years later by the Lanuns who had been called in to the assistance of the Linga chiefs. After that period the Lanuns made regular descents upon the coasts of this unfortunate island, ascending the rivers, plundering and destroying the settlements and carrying away hundreds of the inhabitants into slavery, the chiefs being murdered. Those of the inhabitants who escaped falling into the hands of the pirates, fled into the woods, where the greater number perished from fatigue and want. The Lanuns were afterwards joined by the Rayats or sea-gypsies who made a large portion of the population of the Johore kingdom, and who lived entirely in their boats. These piratical tribes formed at last settlements on various points of the island, from which they incessantly harassed the natives of the island, carrying desolation in all quarters, and intercepting the supplies which the Sultan of Palembang sometimes sent to his unfortunate subjects in Banka. Many of the inhabitants emigrated from the island, and numbers gave themselves up to voluntary slavery to slave-dealers from Macassar, who visited the coast with small vessels for the purpose of receiving those

* Journal I. Archipelago vol. II. p. 299.

who preferred this sad alternative to the combined miseries which famine, pirates and disease inflicted on them. Having completely exhausted the island, the Lanuns gradually withdrew themselves from it after the year 1804, and retired to their own quarter of the Archipelago. They have continued however to visit it in their lengthened cruizes, and even within the last few years they have ravaged its coasts as will be seen hereafter. The pirates belonging to the Johore Archipelago still continued to plague Banka and in 1820 they had rendered themselves masters of some of the tin districts on the south-east part of the island where they raised bentings or small earthen forts at various points. The Dutch Government sent an expedition against them under the command of Lieutenant-Colonel Keer.

(To be Continued.)

DESTRUCTION OF THE FLEET OF THE SAREBAS AND SAKARRAN
PIRATES BY THE EXPEDITION FROM SARAWAK ON THE
NIGHT OF 31ST JULY 1849.

ON Wednesday July 25th the Steamer *Nemesis* with the boats of the *Albatross* and *Royalist* in tow left the river followed by the Sarawak flotilla. On the 27th the Steamer and boats rendezvoused at Kaluka, and on the 28th the *Nemesis* being somewhat short of fuel returned to the mouth of the Sarebas to collect wood. Certain information was received in the evening that a large pirate fleet had left Sarebas early on the morning of the 26th and it was conjectured that the capture of the peaceful town of Sariki was the object of the expedition. A strong detachment of boats was instantly despatched by Captain Farquhar to prevent this fleet escaping on their return by the Kaluka river, whilst the Steamer, the men of war's boats and some native prahus guarded the Sarebas.

This position was maintained for three days whilst scout boats were sent out to give timely notice of the approach of the pirate fleet. The patience of every one was severely tried by the delay which occurred, but on the evening of the 30th intelligence was received, that the pirates after partially plundering Palo, and threatening the inhabitants with certain death, unless they supplied them with salt, retired to a river called Si Maring where it was still conjectured they were plotting an attack on Siriki.

The Palo people fled the same night to Rejang, and reported that all the powerful chiefs of Sarebas were out, and that they had counted 107 war prahus. This news revived the spirits of the waiting expedition, and on the evening of the 31st at $\frac{1}{2}$ past 6, the scout boats in all haste brought intelligence of the approach of the pirate Bala.

Every preparation was instantly made and the Kaluka detachment moved to the entrance of that river, and discovered the pirates in great force passing at very long gunshot distance. Lieuts Everest and Wilmshurst advanced in the cutters, and opened a fire upon a portion of the pirate fleet which was fully returned. The main body however pulled close in shore in shallow water to the entrance of the Sarebas, and appeared, on seeing the effective preparations for their reception, to hesitate as to their future course of action, for some delay took place. This hesitation over, they rushed at the Eastern Point of the river with the intention of forcing their way up the Sarebas in water too shallow for the men of war boats. They were however met by the native force at the sandy point, and after a brief resistance, seized with a complete panic, the bala divided, some escaping a shore, some putting out to sea, and some crossing the river by a long detour. It was a bright moon-light night and now commenced a series of small independ

ant actions. The Steamer at the rivers mouth manœuvred and kept up a hot and destructive fire. The men of war boats outside were playing the same game, whilst the Sarawak natives on either bank of the river, about $3\frac{1}{2}$ miles across, were closely engaged with the pirates and intercepting their escape.

The Nemesis, true to her formèr fame and fortune, was every where, and every where cutting up the pirates; rockets, shells, shots, musketry were flying in all directions—blue lights and port fires illumined the scene. Over a space of fully seven miles, there was here a fight, there a chase. Here a pirate boat sunk at sea, whilst others were seeking safety (and often seeking it in vain) on shore in an inhospitable jungle far from their homes. At about eleven o'clock the firing relaxed and by twelve the pirates were no longer seen, and the English force was left to its repose.

At break of day on the following morning the result of the night's action became visible. On the Eastern point, or Batang Marrow, lay upwards of sixty prahus, and on the beach for a long distance was strewed the debris of their large pirate fleet—sunken boats were carried here and their with the tide—fully 2,500 men of the enemy sought refuge in the jungle, where our people were eagerly hunting them in detached parties.

Thus the pirates of Sarebas caught redhanded in the fact, laden with plunder, and gorged with blood, met the fate they so richly deserved. Upwards of eighty prahus were captured (many from sixty to seventy feet long, and eight or nine feet in beam) and many men slain. It is difficult to calculate the exact number of the killed, but at a low computation, three hundred must have fallen during the night's action, and many wounded and exposed will swell the total loss of the pirates. The morning was occupied in destroying, and appropriating the captured prahus, and orders having been given to show mercy to any of the pirates who wished to give themselves up, the fleet in the evening joined the Steamer at Rembas.

The next morning, the 2nd August, an advance was made up the Sarebas and the force anchored at Baring in the afternoon, and again proceeded at night to Sarueh. The next morning a Malay prisoner having been brought in, the following information of the movements of the destroyed pirate fleet was obtained. A force (by his account) of 120 boats had set out under the firm persuasion that the Malays of Sarawak would not make any attack during the Ramadan or fast month, and probably, he added, the chiefs had an idea of attacking Siriki. Having (as before mentioned) plundered Palo, they held a conference in the Si Maring and proceeded to Mato, capturing by the way two trading prahus, one laden with sago bound to Singapore, the other returning from that place with piece goods &c. The panic on finding both the Sarebas and Kaluka guarded was complete. Every body (the prisoner added) lost his senses and each boat thought only of reaching home.

It would be useless to describe the further movements of the expedition in detail, and it will suffice to say that the town of Paku was taken without resistance after a skirmish or two, and after some hard labour for two or three days in removing the obstructions thrown across the narrow and shallow river. On the 7th of August the Expedition returned from the neighbourhood of Paku and rendezvoused around the Nemesis. A letter was however left at Paku addressed to the pirates pointing out their crime, and the punishment which had followed it, and offering terms on the basis of the abandonment of piracy.

The original object of the expedition was now resumed, and the steamer and boats moved to Rejang, and advanced up the river eighty miles to the mouth of the Kanawit inhabited by the piratical tribes—a successful excursion was made up this river—several long houses were destroyed, some piratical Bangkongs taken, and some prisoners made. The same terms were verbally offered to these people as had before been offered to the Sarebas, and three of their chiefs came in, and promised as far as they themselves were concerned to discontinue their piratical excursions, but they would not answer for the other chiefs, amongst whom “Buah Riah” of Ensabi is the most powerful and influential.

On the fourth day the boats having once more rejoined, the Steamer proceeded about ten miles up the Rejang to Poe inhabited by the Kanawit Dyaks, a tattooed race. These people, piratical themselves, and the guides of the Sarebas and Sakarran on their expeditions, were fined, and two slaves, captured by the Sakarrans resident up the Poe creek and sold to them, were set at liberty. The effect of these intermediate depôts of trade between the Malays and the pirates is that the captives and plunder taken during their piratical excursions are exchanged for salt, iron and other goods. Such depôts are the receptacles of plundered property and must always be destroyed, in order that the pirates may not derive the profits from piracy which they have heretofore done. The receiver of piratical plunder must be regarded in the same light as the pirate himself.

At Poe, this most successful expedition may be said to have ended, and it is only necessary to add that the Rejang is probably the finest and deepest river in Borneo, and when piracy shall be suppressed will become a place of note and a great producing country. The river Kanawit can send out some 60 or 70 piratical prahus, Poe 8 and Katibas 50 to 60 making with Sarebas and Sakarran (previous to the recent defeat of the former) upwards of 300 prahus engaged in piracy, either in the fleets or detached parties. The present expedition has dealt a heavy blow to this infamous system, and the best results may be expected from it, and the public and H.M.'s Government are greatly indebted to Captain Farquhar for his conduct on an arduous and tedious service. All alike deserve thanks and applause, from the gallant Commander

of the *Nemesis*, and the officers engaged on the expedition, to the seamen and marines, for alike all did their duty with zeal and with cheerfulness. The news received from Sarawak when the boats were up the Rejang will further illustrate the system of piracy which has been allowed to grow up on the coast of Borneo. It appears that previous to the expedition from Sarawak proceeding to Sarebas five piratical prahus had passed towards Sambas and Sirhassan. On their return on the morning of the 7th of August these boats attacked the houses at the Moratabas entrance of Sarawak, and, though repulsed, subsequently captured a trading prahu and killed twelve men. They had before taken an island prahu, and killed some Chinese off the entrance of the Sambas river, but the exact amount of mischief done by them has not yet been ascertained. It is very certain that unless the vigorous measures at present pursued by Sir James Brooke are consistently carried out, the pirates of Sarebas and Sakarran will yearly increase in audacity—every peaceful trading community will be cut off or forced to join them, and when they become possessed of musketry, Singapore itself will suffer directly from their ravages, and blood and treasure will be expended to effect what may now be effected with comparative ease. Let us look to it well or we may pay a heavier penalty as the price of neglect and doubt, than we at present dream of!

As it has before been said, it is very difficult to estimate the loss of the pirates during these proceedings, but it is satisfactory that no Englishman has lost his life from the enemy, and only four natives in personal encounters. It is gratifying to add likewise that women and children have been respected, and that the Malays, and even the Dyaks have shewn a great willingness to introduce a humane system of warfare, and in this as on many other points to imitate the customs of their European brethren. On the 23rd of August the expedition once more anchored at the entrance of the Rejang, and on the 24th the *Nemesis* entered the Moratabas.

29th August, 1849.

P. S. It has since been reported, but is not certain, that the pirates have suffered more severely than stated in this account and that the five prahus returning from Sambas were attacked by the Linga people and three captured.

Both these reports are probable but want confirmation.

It is hardly necessary to add to the above account, that the Expedition was accompanied by Sir James Brooke. We most earnestly hope that this great blow which has been struck at one of the communities of robbers and murderers whose fleets and vessels infest the seas of the Archipelago, will be followed

up with unflagging vigour. We repeat, however, that a system of combination, like that pointed out in our July number, is absolutely necessary. Nothing less will do the work thoroughly. The more extensive and perfect the combination, the smaller the sacrifice of means and blood. Humanity to the piratical tribes themselves demands that the most stringent and effective measures be at once put in force.

THE ZOOLOGY OF SINGAPORE.

THE Zoology of Singapore as might be expected from its insular situation, is confined to but a few genera of quadrupeds; tigers unfortunately are amongst the most numerous, the loss of human life from the depredations of these animals amounts to fully 200 persons per annum for the past three years; this is a frightful and almost incredible amount, but I have too much reason to believe that it is less than the real loss. A gentleman with whom I am acquainted took some pains to discover the truth and found that nearly 300 human beings had been carried off in one year, of whom only 7 had been reported at the Police; great exertions are at present being made for the destruction of these animals, which is effected by pitfalls, and has been tolerably successful of late, five having been captured and brought into town within the past quarter. Not many years ago the existence of a Tiger on the island was firmly disbelieved, and they must have been very scarce indeed, for even the natives did not know of their existence. One may have been accidentally carried by the tide across the narrow strait which separates the island from the mainland, and its cry in the pairing season may have induced another to follow, finding abundance of food they have multiplied accordingly. This is a more rational mode of accounting for their being here, than to suppose that they chased their prey over, as it is contrary to the nature of the beast to follow in pursuit after the first attempt proves unsuccessful. We have none other ferae except a large and powerful wild Cat called Rimau Dahan (Malay) and the Viverra Musanga, or Musang (Malay), an occasional Otter is found and if Cuvier's arrangement be admitted, I may add several species of the Bat tribe, amongst them that most destructive one to all fruits, the Flying Fox or Pteropus; fortunately however they are as yet scarce, but at no distance from us, they are numerous beyond count, I have seen a flock of them whilst anchored in the Straits of Malacca, so large as to take several hours in passing.* Their flesh is eaten by the natives but no real Fox smells to my mind one half so rank as they do, methinks a Rat would be palatable food compared with them. Of Rats we have several species, all very plentiful. Wild Hogs are abundant which next to man form the chief food of the Tigers. We have the following species of the Deer tribe. The Cervus Heppelaphus or Rusa, (Malay) a large animal about the size of an Heifer 4 years old, the meat tastes very like indifferent Beef; the next in size but far

* A colony is at present located in a mangrove creek at the head of the estuary of the Johore. In the day they may be seen asleep hanging in millions from the branches of the mangroves. At sun set they begin to stir, and presently they ascend into the air and wing their way to the southeast in one vast, uninterrupted cloud. They pass the whole night in the jungle and plantations devouring fruit, and as soon as dawn begins to appear they mount the air again, and return to their roosting place at the head of the estuary. E.D.

superior in flavour and delicacy, is the *Cervus Muntjok* or *Kijang* (Malay); this animal so well described by Horsfield is about the size of a sheep and the flesh is really excellent venison. There are also three species of the *Moschidæ* called by the Malays *Napu*, *Palando*, and *Kanchil* of the respective sizes of a small Goat, Hare and Rabbit; the first is the only eatable one of the three, the *Palando* and *Kanchil*, having too much of the game flavour; they are all most graceful and elegant in form, and well worth a place in any Zoological collection, but from their feeding only on leaves peculiar to our jungles it is nearly impossible to transport them alive to other countries.

There are abundance of Monkeys, the common grey and a couple of other species.

The *Pteromys*, or what is known by the name of Flying Squirrel, is not uncommon, in former years they were to be seen almost every evening on the Government hill sailing from tree to tree, but have retired before clearing and cultivation.

BIRDS.

Of the feathered tribe although we possess a greater variety than the class *Mammalia*, we are far from having the diversity to be found in the Peninsula, being deficient in the whole *Rasorial* order, if I except a small Quail of which there are two species: the only game to be found are snipes, which abound from October until March and even later.

About our houses are to be seen numbers of the common and Java sparrows; crows are so scarce that I have never seen more than a pair together, and that very seldom. A pretty little Bird with an agreeable note of the genus *Motacilla* frequents our gardens, and the *Prinia Familiaris* and *Jora* of Horsfield are occasionally to be met with.

In the secondary jungle that springs up after the destruction of the original forest, is to be seen the *Buhut* or *Centeopus Buhutus*, sailing from bush to bush, his gay plumage too often causing his destruction from the keenness of young sportsmen who occasionally suppose him to be a pheasant, indeed I have known some shoot and eat him afterwards, not discerning their mistake.

There are several species of wild pigeon. The *Pirgam* (Malay) one third larger than the common domestic bird, the *Rowa Rowa*, (Malay) a white pigeon with bluish wings about the size of the domestic pigeon. The *Punei* (Malay) or small green pigeon and two or three species of Dove, are numerous. Flocks of the grey plover and starlings are to be seen on the plains during the rains from October till March. Of the raptorial order we have the following genera, *halietus*, *accipiter*, *milvus*, and *vultur*, also that perfect type of the true falcons, the beautiful little *falco cœrulescens*, which although not much larger than a sparrow will kill and carry off a bird the size of a thrush; of owls there are 2 or 3 species, flocks of

gracula and paroquets are to be seen flying from jungle to jungle ; birds of the following genera are to be found in the forests—alcedo, bucceros, dacelo, lamius, oriolus, parra, podargus, and phanico-phaus, with two or three species of woodpeckers, and the caprinulgus; water-fowl are rare, the only species met with are a diver, now and then a solitary teal and the pelican, a few herons and water rails complete the list of all the birds I have ever met with on the island.

REPTILES.

Alligators are common up the salt water creeks and along the shores of the island, but being so well fed from the abundance of fish they are not troublesome.

Turtle are to be found in the market daily, some of a very large size; although so tenacious of life they are difficult of transportation, from the mode of capture adopted by the Malays who generally spear them; a person who wishes to take them for sea stock ought to examine well whether they be wounded, otherwise he will be disappointed by finding them die a few days after they are on board. They Malays themselves do not eat the flesh, they are consequently very cheap. One weighing 50 or 60 pls can be purchased for a dollar and a half.

Snakes are not numerous, the most common is a black cobra. I have killed several of this species myself within the last twelve months. I believe this with a species of trigonocephalus are the only well authenticated venomous species on the island. The first possesses the peculiar property of ejecting venom from its mouth, the Malays say that there is no cure for the bite. I have seen it prove fatal to a fowl in 2 or 3 minutes, but have not observed its effects upon large animals; those I have killed here measured from $4\frac{1}{2}$ to $5\frac{1}{2}$ feet in length; the reptile being slow and sluggish in its movements is easily overtaken and killed, when attacked it erects the body; and dilates the skin on either side of the head uttering a noise like that of an irritated cat, when if approached it throws to the distance of from 6 to 8 feet a venomous fluid of most poisonous quality. I had the opportunity a few weeks ago of observing its effects upon a Chinese who had the fluid projected into his eye, the lid of which was much swollen and closed and the conjunctiva a bright red within a few minutes of the accident. The snake was killed and brought in by one of the man's comrades, he applied to me for medical aid but upon my recommending the application of Leeches he went off and I know not the result of the case. About a year ago I saw two dogs deprived of sight from a similar occurrence. The fluid as I have seen it thrown from the mouth is perfectly clear but appears viscid, the drops which fell being larger than globules of water. There are large colubers and other snakes but I believe all harmless.

FISH.

The market is abundantly supplied with fish both in a fresh and salted state, which forms the chief food of all classes of the native population. The two sorts most plentiful are the Ikan Parang Parang, and Ikan Tingiri. The former is a dry fish well adapted for salting but so full of minute bones as to render the attempt to eat it in a fresh state, a service of no inconsiderable danger. The Tingiri which grows to the weight of 15 lbs is one very frequently met with at the tables of Europeans, it is one of our best fish for boiling, and only second in this respect to the Kurow, which I think may safely be pronounced the first dinner fish in the Straits. It grows to a much larger size than the Tingiri, the pamphlet Ikan Bawal (Malay) and the sole, Ikan Lidah (Malay) are without competitors for frying, but care must be taken to obtain the true sole, and not the flounders so commonly substituted; the mullet and red fish, Ikan Merah, (Malay) are not to be despised; there is another small fish, something like the sardine called Ikan Susu, a general favorite for the breakfast table; besides these abundance of coarser kinds are procurable, sharks, rays, and many other genera with which I am unacquainted. The following is a list of the Malayan names of such as I have myself seen and may be useful as a guide to the future enquirer, the prefix ikan is understood before them all, that being according to the Malay mode of expression.

Balana, Balankas, Buntal, Baji, Bayan, Bulu Ayam, Bawal Tambah, Bawal Putih, Bawal Cheremin, Bawal Itam, Balacha, Bawal Lender, Bleah Mata, Kokub, Cheremin, Chinchairu, Chinchoda, Duri, Galamah, Grapu, Gimcs, Jumboi, Karong Kikay, Kadrak, Kabasi, Ladah, Loban, Lombah Lombah, Mindiabau, Nheo Nheo, Pari, Picha Priu, Punting Dama, Pouh, Samlang, Sablah, Salikor, Salangat, Sambalang Parang, Todah, Tamban, Troboh, Tumray, Talang, Iu. Abundance of crabs and prawns of different species, two species of Octopus, Nuas, and Suntong, (Malay,) and I ought not to forget that singular animal the Halicora Dugong, or Duyong (Malay); it is very seldom to be met with in Singapore, I have only seen one specimen in many years residence, but they are plentiful up the Johore river; the natives are fond of the flesh which they cut up into stripes and dry in the sun the usual Malay mode of curing meat, which they call when so prepared "Dending;" they capture the animal occasionally in their fishing stakes, but most commonly spear it, at which they are remarkably expert.

[1843]

T. OXLEY.

AMERICAN COLONIES IN THE INDIAN ARCHIPELAGO.

I have purposely avoided speaking of the trade and commerce of the islands in the Eastern Archipelago, as they are subjects which do not fall within the sphere of our enquiries, in a review like the present; although the productions, the trade and commerce of nations are properly a branch of ethnological enquiry, in a more enlarged view. An interesting pamphlet, embodying much valuable information on the commerce of the East, has been lately published by our townsman, Mr Aaron H. Palmer. This gentleman is desirous that the United States government should send a special mission to the East Indies, as well as to other countries of Asia, with a view to extend our commercial relations. The plan is one that deserves the attention of our people and government, and I am happy to state that it has met with favor from many of our merchants engaged in the commerce of the East, as well as from some distinguished functionaries of the government. England, France, Prussia, Denmark, and Holland, have at the present moment, expeditions in various parts of the East Indies and Oceanica, planned for the pursuit of various scientific enquiries and the extension of their commerce. With the exception of Prussia, these nations seem to be desirous to establish colonies; and they have, within a few years, taken up valuable positions for the purpose.

Is it not then the duty of our government to be represented in this new and wide field? Our dominions now extend from ocean to ocean, and we talk of the great advantages we shall possess in carrying on an eastern trade; but how greatly would our advantages be increased by having a depot or colony on one of the fertile islands contiguous to China, Java, Borneo, Japan, the Philippines, &c. An extended commerce demands it, and we hope the day is not distant when our government may see its importance.

England, France, Spain, Portugal and Holland have possessions in the East. The former, always awake to her commercial interests, now has three prominent stations in the China Sea,—Singapore, Borneo, and Hongkong. But even these important points do not satisfy her, and she looks with a longing eye towards Chusan, a point of great importance, commanding the trade of the northern provinces of China, and contiguous to Corea and Japan.

It is evident from what has been stated, and from the opinions expressed in foreign journals, that the attention of the civilized world has been suddenly attracted to the Eastern Archipelago, and it is only surprising, considering the knowledge possessed by the European nations, of the rich productions of these islands, and the miserable state in which a large portion of their inhabitants live, that efforts have not before been made to colonize them, and bring them under European rule.

The Spaniards contented themselves with the Philippines, but the Dutch, more enterprising, as well as more ambitious, extended their conquests to Sumatra, Java, the Moluccas, and recently to Bali, Sumbawa, Timor and Celebes. But these are not all, for wherever our ships push their way through these innumerable islands, they find scattered, far and wide, their unobtrusive commercial stations, generally protracted by a fort and a cruiser.

It is said that the natives feel no attachment for their Dutch rulers, which, as they possess so wide spread a dominion in the Archipelago, is much to be regretted; for this feeling of animosity against them, may effect the relations that may be hereafter formed between the aboriginal races and other Christian people. Attempts will doubtless be made to prejudice the natives against the English, but the popularity of Mr Brooke at Sarawak, in Borneo, his kindness to the natives, and the destruction of the pirates by the British, will no doubt gain for them throughout the Archipelago, a name and an influence which the jealousies of other nations cannot counteract. The natives of these islands, except those of the interior, are strictly a trading and commercial people. Addicted to a seafaring life, and tempted by a love of gain, they traverse these seas in search of the various articles of commerce which are eagerly sought after by traders for the European, India, and Chinese markets. Piracy, which abounds in this region, grows out of this love of trade—this desire for the accumulation of wealth, and we believe that nothing would tend to suppress crime so effectually as the establishment of commercial ports throughout the Archipelago.—*Mr Bartlett's address to the American Ethnological Society 1848.*

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THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA.

AN ACCOUNT OF THE ORIGIN AND PROGRESS OF THE BRITISH
COLONIES IN THE STRAITS OF MALACCA.*

By Lieut-Col. JAMES LOW, C.M.R.A.S. & M.A.S.C.

AFTER the enterprising spirit of the Portuguese had opened the route by sea to the Malayan Peninsula and to the Eastern Archipelago, it could not have been expected that other European nations would not endeavour to participate in the advantages yielded by the discovery of these productive fertile regions. The field indeed was vast, and although the first adventurers tried hard to exclude every rival, and thus to secure lasting monopolies, their efforts, according to the natural course of events, proved in vain.

The Portuguese, the Spaniards, and the Dutch, then became the competitors for supremacy, over these favoured and envied portions of the globe—regardless almost of the rights of the natives, and urged onwards by a thirst for spoliation and gold.

* It is proper that I should here state that the principal facts to be given in this account respecting the history of the Straits Settlements, have been derived from official records to which I was personally allowed access by the local government, and to the present governor the Hon. Col. Butterworth, my best acknowledgements are due for the facilities he has cordially afforded to me for filling up some blanks in the latter pages of this account.

The British banner was not long afterwards unfurled to the Eastern breeze, and Europe was startled by the anomaly of nations which, although in amity at home, indulged in barbarous feuds abroad.

At length the Portuguese were compelled to relinquish most of their conquests and to retire to Macao, while the British having the magnificent arena of India before them, gradually neglected their ports and factories to the Eastward, and finally abandoned them with the exception of Bencoolen. But when they had consolidated their power on the banks of the Ganges and on the plains of Southern India, the trade betwixt Hindostan, and the Nations and Islands to the Eastward of it, had assumed a new aspect, and had become almost identified with its prosperity. The Supreme Government of British India therefore lost no time in seeking out for an eligible position to the Eastward, on which to form a mercantile settlement.

It was indeed full time—for the Dutch had attacked Rhio in 1783, and although they had been beaten back with the loss of a 54-gun ship, 500 men, their commander, and a civilian, they returned to the town some time afterwards and conquered it. Thus the vessels and produce from the Moluccas, Celebes, Borneo, and the Phillipines had now no established open port to resort to, with a certainty, as formerly, of meeting British and Native Merchants bringing produce from India.

ORIGIN OF THE SETTLEMENTS.

[1785]. When the Supreme Government of British India had thus resolved to form a Settlement to the Eastward, a considerable degree of difficulty was felt in carrying the purpose into effect, owing to the general ignorance which then prevailed in India respecting the whole of the Indo-chinese and Malayan countries. At this juncture Mr James Scott, a navigating merchant, offered his services, and they were accepted. But this gentleman, although better acquainted, perhaps, with the regions to the Eastward than any of his contemporaries, was but slenderly versed in their political relations—so little so that he at first proposed that the Settlement should be made at the Island of Junkceylon—the Salang of the natives. But it was found that this overestimated Island, formed a portion of the Siamese empire. It will be seen in the sequel that Captain Light committed a similar mistake with reference to Pinang.

Captain Francis Light who followed the same profession as Captain Scott, had been in the habit of trading to Keddah—the Quidah of the charts—and had conversed with the then Rajah or chief respecting the wish of the British to establish a trading port,

in the Straits of Malacca. The Rajah then addressed a letter to the Governor-General, stated what Captain Light had told him, and signified that he expected that if he formed an alliance with the H. East India Company it would prove a shield to him against the attacks or demands of his enemy, as he styled him, the Emperor of Siam. But he carefully abstained in this letter from disclosing the true relations in which Keddah stood with that Potentate—while on the other hand, it seems hardly possible to exonerate Captain Light from the charge of having given an undue credence to the Rajah's protestations of his independence of Siam, and this without having previously and sufficiently endeavoured to ascertain if they were true. He thus was led to make reports to the Supreme Government which induced it for a season to believe that Keddah was not dependant on any other country—or at most, was not dependent to such a degree as should bar its chief from treating with the British for a cession of territory to them. It can hardly escape observation too, that the Supreme Government in employing Captain Light to negotiate a Treaty placed his duty as a diplomatist in direct opposition to his interest as a merchant. The occupation of Pinang was to this gentleman, as well as to merchants generally, an object of pressing importance—and it would have perhaps been expecting too much from any one so circumstanced, that he should have strenuously exerted himself to disprove the Rajah's assertions or to test their validity. It is curious that when he afterwards obtained office at Pinang, he felt the incongruity of such a position, and requested an adequate salary and that he should be interdicted from trading.

The history of Keddah was not such a blank as these preliminaries seemed to indicate. There was then extant a Malayan history of Keddah which has been lately translated into English (a) and reference might have been had to the works of Abbé Choisy in 1686 and to M. de La Loubere's History of Siam in 1678; by both of whom Keddah is described as being, at least, tributary to Siam. It rebelled according to these authors in 1720—a fact implying subjection—but was speedily reduced by Siam to obedience.

When Captain Light subsequently had the fact of the dependence of Keddah on Siam placed in clear reality before him, it was too late for the Supreme Government to retrace its steps. But, if the Rajah had not the right, without the concurrence of the emperor of Siam, to alienate any portion of the Keddah territory, the British government by taking possession of Pinang came thereby into immediate political contact with the Court of Bankok; and should have at once broken off all negotiations with its vassal provincial chief. The Rajah of Keddah tried doubtless to stipulate at the outset for protection against Siam as the return for the cession of

(a) Vide No. I of this Journal for 1849.

the island of Pinang. But Captain Light did not decidedly tell him that the protection he sought for could not be accorded to him. Had he done so, and had the Rajah then drawn back the island of Pinang would not, agreeably to the governor general's instructions to the above negociator, have been accepted on the Rajah's conditions. How it came to pass that the Rajah under these circumstances did not prevent the island of Pinang being taken possession of by the British—and how it happened that he afterwards signed and sealed two consecutive treaties of cession; neither of which were offensive and defensive—has not been fully explained in the records of government. There was undoubtedly no coercion or intimidation employed to obtain the cession. The Rajah himself pushed on the negotiations; as he seems to have been at last impressed with a strong belief that when he should have succeeded in forming a friendly treaty of alliance with the British, every advantage which he had anticipated from a positive offensive and defensive one, would necessarily follow. This was more a practical than a speculative view of the case, and might easily under more favorable times for him have been realized. There was however one disadvantage which must have accompanied the cession under any aspect—and of which the Rajah was quite aware, a diminution in the trade of Keddah. When he represented this to the supreme government of British India he was informed in general language that care would be taken that he should not be a loser in this respect by the cession of Pinang. In the end it turned out that this loss had been greatly exaggerated (*b*) and that the sum of 10,000 Spanish dollars which was given yearly to the Rajah as an equivalent was a fair and equitable one. In 1780 the whole of the Keddah revenue amounted to 111,400 Spanish dollars—and in 1790, four years after the cession of Pinang, that revenue was 99,400 Spanish dollars. Subsequently this aggregate revenue was almost annihilated by the rebellions and wars which distracted Keddah and dispersed its inhabitants.

The Rajah's request then, to be supported against Siam, was not entertained, and all that was then granted was that "the English government would keep an armed vessel stationed to guard the island of Pinang and the adjacent coast of Keddah"—the latter being then greatly infested by pirates.

While negotiations were pending instructions from the Board of Controul, the Dutch, it appeared, had been intriguing with the Keddah ministers in order to obtain the Rajah's permission to hoist their flag in that country. The French too it was believed desired also to have a footing in it—while the Burmans looked forward to an early period when they should be enabled by the conquest or occupation of it to inflict a deep wound on the pride and power of their antient and almost natural enemies the Siamese. Offers

(*b*) Government records,—paper or report on the trade of Keddah by the acting Resident Councillor at Pinang, Major Low.

coming from these different quarters of, perhaps, unlimited aid, inflated the Keddah Rajah with unwonted conceptions of his own importance, and we may readily suppose tended seriously to embarrass the negotiations he was carrying on with Captain Light.

It was perhaps well for the Rajah that he returned to less rash Malayan counsellors, than were then in his durbar, and that by an alliance with the British he was rescued from the anarchy which must have been the consequence of the conflicting aims of the nations just alluded to. It is quite obvious that neither the French nor the Dutch could have long defended the Rajah from his enemies by sea and land, and that they would soon either voluntarily or by compulsion have left him to his hard reckoning with Siam, while on the other hand as future events proved, the proximity to his gates of a strong maritime power like that of the English could not fail to be, if not a natural, at least a moral protection to him against aggression from his neighbours for so long as he did not provoke it.

Meanwhile Captain Light having been pressed by the Supreme government for more positive information respecting the true political condition of Keddah was constrained to declare that the Rajah of Keddah had ever acknowledged the Siamese as Lords paramount, that its Kings originally came from Menangkabow in Sumatra (*a*) and had always through fear paid homage to the rival nations of Ava and Siam—that the then Rajah was a mere puppet in the hand of his chiefs, that his illegitimacy, his mother having been a slave girl, was against his accession to the Rajahship, that his uncles had tried to depose him but had been probably thwarted in that object by the Siamese—and that this Rajah was weak, timid, avaricious, and oppressive, and so devoid of faith that he would not perhaps scruple to sacrifice Pinang to Siamese intrigue! Keddah then contained 40,000 souls and upwards as reported, probably 80,000 (*b*).

Captain Light took possession of Pinang on the 17th day of July 1786. The expedition landed at Point Panaga where Fort Cornwallis and the town now stand, a spot of jungle land was cleared and a flagstaff was erected.

11th August 1786. Soon afterwards a party was collected consisting of the following gentlemen—Captain Wall of the H. C. S. Vansittart, Captain Lewin of the H. C. I. Vanlentynne with his passengiers, besides local servants of government.

The British flag was then hoisted, and “the island was finally “ and formally taken possession of in the name of His Majesty, “ and for the use of the Hon. East India Company.”

(*a*) That Malays emigrated from Sumatra to Keddah is highly probable, but the Keddah history or annals (vide translation) gives a different origin to the chief of that country.

(*b*) It is the men, often only the able bodied men, of whom a census is taken by native Malayan chiefs and princes. The number in this case therefore would perhaps be as above, the double of 40.

It is much to be regretted that the cession of this island had not been obtained directly from the Siamese court, which appears to have been not indisposed to the measure at the time. Siam was then waging war with Ava, and it had become an object of great importance for it to have ready means of procuring European arms and ammunition on its western coasts. But its Emperor could not brook that the British had acquired the island from the Lord of his vassal state of Keddah, and accordingly resented the unauthorized alienation which had been concealed from him; by threatening the Rajah with a full measure of his vengeance.

It was not long however before the consideration just noticed began to have its full and due weight, and as the island was in itself of no value to the Siamese King, he was apparently easily pacified, the intention was dropped of punishing the Rajah then, and Keddayans and Siamese were soon allowed to enter into a friendly intercourse with the settlers on that island, one which has not been seriously interrupted up to the present day.

The then tenure therefore of Pinang by the British rested upon the very flimsy foundation of recent occupation and it may now be considered as based on long occupancy alone—one however, which, subsequently to the waived protest of the Siamese, has never been questioned or disturbed by them, but on the contrary has been formally recognized in the treaties betwixt the court of Bangkok and the British.

The treaties with the Keddah Rajah were indeed null and void from the very first, since the Keddah Rajah as a delegated ruler, had no power to make them; or at any rate to give away any portion of the territory of Keddah. Even had he been a ruler both de facto and de jure, his expulsion from that country afterwards by the Siamese would have had a similar effect, for he could not have performed then those acts to which he was by treaty bound. A sort of tacit right however to hold possession may have arisen from the Siamese having originally neglected to strongly and sufficiently protest against it, and from their not having enforced the not very regular one, which they did make. This however would be a dangerous precedent on which to base occupations of territory.

The treaty of Bangkok treats Keddah as one of the Siamese provinces. Hence there can be no independent Rajah there, and consequently no one who is entitled to the sum formerly payable to the self styled independent Keddah Rajahs, by virtue of the treaty made by Sir George Leith before noticed. The Siamese Emperor could not claim it on the plea that he is the ruler de jure of Keddah, without directly admitting that the Rajah who ceded Pinang was a ruler in his own right, and so nullifying such a claim. If this sum is now therefore to be paid it can only be as a gift. But it is one which cannot benefit the recipient, unless by helping to conciliate the Emperor, for it must as it now does, find its way into his coffers. But although ostensibly paid under this aspect

of the case, and quite irrespective of political views, and merely in consideration, of the fact that the possession of Pinang was obtained from a Rajah of Keddah,—still from its being paid to a Siamese officer or *governor* of Keddah, and immediately afterwards from its being paid over by him to Siam; it has too much the appearance of being a rent or tribute. All this seems to be anomalous in politics, and had better perhaps be at once got rid of by a commutation, but securing at the same time the office of governor as at present, on his duly preserving his allegiance to Siam, to the legitimate nearest descendent of the Rajah who ceded Pinang or to Siam itself. We may however be pretty sure that unless this be done the payment will be perpetuated, since for its sake the Siamese government will for so long as any of the descendants of the Rajah just noticed remain, place one of them as governor over Keddah, or at least, as now has been done, the central portion of it. There is, it may be added, no scarcity of scions of the stock of the Rajah of Keddah.

The original intention in securing Pinang was purely of a general commercial nature and for the purpose of erecting docks and building ships and to be a naval depôt—and to this agricultural and other objects were merely adjuncts. It became one in the chain of trading colonies with which the British have since girded the world.

Some writers have expressed surprise that the British government had not *dictatorially*, assumed a more preponderating attitude than the cession admitted of, amongst the Malayan states of the Peninsula by colonization or otherwise—especially as the Malays are said to have themselves been desirous to witness it.

But it seems that such policy at any time would have been of a questionable kind—and therefore the subject calls for a few passing observations.

The whole population, excluding jungle tribes, of the Malayan Peninsular states *not* directly subject to Siam, does not exceed as far as information can be obtained 200,000 persons of all ages and both sexes—and it is probably overrated. The Rajahs are generally poor, grasping, and disposed to oppression; the whole country with exception of the scattered localities occupied by that population, a jungle. The tin, gold, and other valuable produce of these independent states has always and naturally found its way to English entrepôts—and their subjects trade freely with the latter. A moral preponderance has also long ago been established, which might be shaken by any attempt to gain a physical one, which last however has never it would appear been contemplated.

The British could not, without being aggressive, endeavour to emancipate the dependent states, and any guarantee they should afford to the independent ones, against foreign aggression, would probably only lead them to court it, or at least to lay themselves open to it in the hope of drawing the British into an open war with Siam.

Such a guaranty would always require a large body of troops to be at hand to carry it into effect, not only where extraneous causes should require them, but to repress wars amongst these states themselves, when one or other of the contending parties might and most probably would, call in the aid of the Siamese; which aid would assuredly be afforded if we may judge from the events of the past..

It has been suggested that by a subsidizing policy the British would be able to keep the Siamese at a greater distance from their colonies in the Straits than they now are. If that people were possessed of power and military resources commensurate with the extent of their territory, then this argument would be apposite, but the contrary is fortunately true of them. Protected Malayan states, all internally in a rapid decline, both morally and physically, would ever prove but a weak barrier to Siamese ambition—and this barrier would be always ready to snap asunder on the slightest tension. The proximity of the Siamese territory to a long, although partially discontinuous, line of British frontier from the upper part of the Sauluen river in Martaban, to the north bank of the Kreen river on the Peninsula, is probably the best guarantee for the preservation of peace by the former.

Let us look however to the moral effect which has actually been produced on the Malayan states which are situated near to British colonies. There can be little doubt that the absolute chiefs who rule them, feel themselves checked and to some extent overawed by the presence of a race the extent of whose pervasion they cannot estimate, and whose civilization they cannot expect ever to attain to or even to imitate. But if the British have not by a chivalric policy tried to experiment on the normal ethnics of the people of the Malayan principalities, they have by throwing widely open the long closed avenues to unrestricted trade induced many Malays to settle in these colonies, and have thus secured to future generations the chance of being raised to a higher portion in the civilized world.

That a larger population has not been attracted from these Malayan countries to the British settlements, may be easily accounted for, but a full exposition of the counteracting causes would not be very encouraging to philanthropists. [a]

[a] The population of the Peninsula, excluding the British possessions, may probably stand thus at the utmost:

Independent.	
Johore and its dependencies } and Pahang	}
Tringanu	
Calantan	30,000
Perak	40,000
Salangorc	25,000
Salangorc	3,000

138,000

The Malays individually are of an independent character, but in the mass they bow submissively to the mandates of their chief. Their passiveness arises from a clannish feeling, and that treatment, which if by a chief they would cheerfully or contentedly bear, would rouse them to rebellion or to flight, were it to be inflicted on them by a foreign power. Even at the present day, and after all the experience they have had of the advantages of European civilization, numbers of Malays still vacillate betwixt the freedom they enjoy under British rule—and the unrestrained life, however conquered by warfare or by the oppression of their Rajahs, which they may lead in the Malayan states. The application too of the civil, and to some extent, of the criminal law, of England, to the Straits colonies has doubtless tended in some degree to check the influx of Malays into them, for although the British legislature has by charter, bent the civil law so as to reasonably accommodate it to the customs, habits, and prejudices of the people, it can hardly be expected that where these characteristics have not been previously well studied, by those who have to administer the Law, (and how are they to be studied or a knowledge gained of them unless by a long residence amongst the people themselves) they will be much attended to in the courts of justice.

Viewing the non-British Malays, and the Indo-chinese races ethnologically, it would appear that although all of them are more or less wincing under the rod of native misrule and oppression, they exhibit degrees of national pride and feeling, which it would be in vain to seek for amongst the more advanced yet subdued and more politico-cosmopolitic people of India.

The decline of the Malayan race has arisen from three prominent causes, the loss of dominion, and the gradual disintegration of their empire, followed by misrule, oppression, wars and ignorance. To distinctly pourtray the real character and social position of these races to the eastward, would demand a research which few have the opportunity, and still fewer have the wish to undertake.

It would be no easy task to analyse and reconstruct the broken fragments of the laws and institutions, traditionally extant, of bygone ages—the secret motives of actions resting on or springing from long cherished feelings, habits and customs—the nationalities fostered by a contempt of other nations—or by that national pride, ever strongest where ignorance is deepest—the anomalous democratic equality which despotism gives birth to amongst the whole mass of the people downwards from the ruler or rulers, thus

Dependent on Siam :—

Patani	50,000
Keddah	25,000

213,000

exhibiting nearly a similar result from the action of two extreme systems of government, and the bait of power, which is cast out to all who can catch it—the pomp of ceremonies gilding with a false lustre, the most galling chains,—the social compacts existing, independent of the most arbitrary rule—the influence of the national religion, whether merely glozing over and softening the harsher features of human existence, or pervading the whole mind, sinking into its most intricate recesses, and either expanding and elevating the moral qualities and mental faculties generally, or debasing them to a low level.

How far all or any of these causes may retard the advance of the Malays in the road to improvement or may be forcing them to retrograde, are problems yet to be solved. But when this shall be attempted, it will be necessary to view that people per se, and without having recourse to any other for a standard of comparison. If we glance at the various savage or demisavage nations and tribes on the globe, amongst whom or in whose close proximity the European race has for lengthened periods been located, we shall find reason to marvel at the slightness of the moral change which has thereby been induced amongst the former. There is in truth no such thing in nature as a real sudden change in morals, ethnics, religion, or politics. All *apparently* sudden but real changes in these are in truth the gradual results of the slow abrasion of former systems by an underecurrent of opinion and belief.

The influence of the Hindu religion first, and next, that of Islamism on the national character of the Malays seems to have been very incommensurate with what we might have expected to have seen. But we have only to look at Christianity. Has it modelled all its votaries upon one invariable social and mental scale? Has it eradicated national habits, and prejudices? When their feelings, habits and prejudices have been strong originally in any people they may stand their ground and eventually and injuriously re-act upon religion and politics.

The only point on which (materially viewed) might have been given a positive controul over the Malayan states and might have proved strictly serviceable to trade, is tin mining. There can be little doubt that European science would not only increase the quantity of tin now obtained from the Peninsula—but prevent a great deal from being wasted by the slovenly practice of the native miners. But the advantage of working the mines might be secured by treaties. If the Chinese are admitted into the Malayan states by their chiefs as miners in such numbers as to render them nearly independent—and such as gives them the power to evade the payment of duties, we may presume that under the safeguard of treaties securing to the Rajahs a reasonable share in the produce, they would be disposed readily to permit the British to open and work their mines.

About this time (July 1786) the Siamese over-run the Patani country which had refused to pay the usual homage. The population of

this country amounted then to about 115,000, but it was easily reduced to its former state of submission. Hajis abounded in it, as they now do, and it is well known that this class of Malays both from bigotry and religious pride are ever ready to foment rebellions. They gain little indeed by the Haj beyond these two qualifications.

About the same period the Rajah of Rhio in Sumatra supplicated the supreme government to assist him in regaining his country from the Dutch and to be placed under the British flag. Rhio is at this day (1849) a Dutch possession.

The Rajah of Salangore also made a similar tender. The latter is a small state in the Peninsula to the south of Pinang, and bounding Perak on the south, with a population now of two or three thousand persons at most. It is independent and yields a considerable quantity of tin.

It has been stated that the Siamese court had been chiefly induced to over look or to connive at the cession of Pinang to the British on account of its wars with the Burmans. It might even have been apprehensive that the British in the event of very strong remonstrances having been resorted to by it, might have joined the Burmese. The forces of the latter nation having been instigated by the French and the Cochinese, burst into Siam at several points, one division penetrated into upper Siam, and a second ravaged the lower provinces of Ligor, Chaiya, Chumphon, Dalung and Ban Noi. But the Siamese rallied, and put to death a party of two thousand Burmans who had occupied Ligor, and in a short while the whole forces of the enemy had passed beyond the frontier. The Siamese court called to account the Rajahs of *Keddah*, *Pahang*, and *Tringanu*, for neglecting to aid in the expulsion of the Burmans which they were bound to do, as dependent chiefs. The Keddah Rajah made a timely submission. This contumacy, which was probably intentional on the Rajah's part with the view of trying what effect his alliance with the British would have on the Siamese court, was very ill timed, and was not forgotten at an after period by the latter. The usual presentations by the dependent Siamese outer provinces consist of gold and silver flowers, the value of which is variable, ranging from three thousand to perhaps ten or twelve thousand dollars. But this is only the fixed token of subjection. The real imposts are occasional calls for money, troops, provisions, boats and munitions of war, these last being more burdensome than money payments, as they come suddenly.

22nd January 1787. The supreme government reiterated its injunctions to the superintendent of Pinang to avoid entering into the disputes betwixt native princes, and to observe a strict neutrality, but permitted that the Rajah of Keddah might be countenanced when it did not compromise the honor, credit or *troops* of the Company.

The Rajah of Keddah now became fully aware that all his finessing had failed to emancipate him from Siamese domination, and

his fears being worked upon, perhaps by the interested people about him, and the threats of the Siamese court, he threw himself back to the protection and rule of the latter. He had indeed voluntarily accepted his government from Siam originally. In this year the Achinese proffered their alliance and friendship to the British and offered to discard the French. The British therefore had they not fixed on Penang would have had no difficulty in obtaining a settlement on either coast of the Straits. During this year also, the Malays drove the Dutch from Rhio in Sumatra, only thirteen persons escaping to Malacca. This event broke the spell which their conquests in the Archipelago had cast around them. The name of Fort Cornwallis was in this year (1787) bestowed on the Pinang fort. The government offered to pay 42 dollars to the Malays of Pinang for every orlong of land which they should clear and render fit for cultivation (about three times what it is in these latter days) and that those who would not cultivate one orlong of land each ($1\frac{1}{2}$ acre) should pay a duty.

6th February 1788.—Soon after this time the Siamese called upon the Rajah of Keddah to afford a contingent of troops, and supplies according to ancient usage, to assist them in attacking the Burmese in Pegu. The Rajah prepared a force of 5,000 men and 150 armed boats, and then modestly asked the English chief at Pinang, Captain Light, to give him 2,000 muskets and 500 blunderbusses, a request which, on the noninterference policy, was not complied with.

The Malayan states at this period were all more or less banded to expel the Dutch from the eastern islands and they all courted the English alliance. But unfortunately British statesmen at the helm in England had not yet learned to appreciate the evils which would be felt by trade generally, should all or a majority of the Malay states be permitted to fall under the rule of any individual European nation, or of such at least as did not profess freedom or reciprocity of trade. The then Rajah of Keddah turned round from his friends the Siamese and proposed to Captain Light that the British should attack the Siamese province of Ligor while that people were on a distant expedition, which treacherous proposal was of course scouted and reprobated. Nearly at the same moment the Emperor addressed a very flowery and adulatory letter to the English chief.

Decr. 1789.—Captain Light in his reply to queries proposed to him by the Supreme Government, sagaciously remarked that should the cultivation of sugar become too expensive in the West Indies the Malay coast would yield sugar equal in quality, quantity and cheapness with that of Batavia, while the means for effecting this would be attended with little difficulty. He rated the general imports about this period (14th Jany. 1790,) at 600,000 dollars per annum. The Rajah of Keddah insisted that Captain Light had several years before and previous to the cession promised to assist him if distressed in his expected troubles with both the

Burmese and Siamese. It appears that although such promise had not been actually made by that officer in positive terms, still that by evading in general terms any direct reply, he had left the Rajah to entertain hopes that he would perhaps gain his object. But it seems also clear that this new subject was then mooted by the Rajah, as he had hopes otherwise of obtaining the aid of some less scrupulous power than the British, for enabling him to set the Siamese at defiance. In this frame of mind he had made secret overtures to the French at Pondicherry and to the Dutch. It does not appear that the former shewed any great alacrity in meeting the Rajah's views, but the Dutch entertained them with avidity, received the Rajah's letters with great pomp, and doubtless hoped by a grand stroke of policy to exclude the British for ever from the Straits, and this at the very time too when the hoisting of a signal of aid, if not of approbation merely, by the latter would have raised every Malayan arm throughout the Archipelago against Dutch rule and influence. A Dutch frigate was despatched to Keddah, and two other cruizers were anchored off Pinang harbour and interfered with the traders to that port. The Rajah of Keddah now laid an embargo on rice and other supplies usually carried to Pinang.

The Dutch had found perhaps that the occupation of Keddah would involve them in an expensive war with Siam, while the Rajah probably began to suspect that he would become a puppet in their hands. Negotiations were soon therefore broken off betwixt these two parties, and the embargo was removed.

Instigated by his ministers, the Rajah, finding that the British would not go to war with the Siamese on his account, determined if possible to expel them from Pinang, as shall now be detailed.

Decr. 1790.—When the Rajas of the Malayan states of Tringanu, Rumbow, Siac, Sulu, Lingin, Johore, Indragiri, Kota Karang and Siantan, found that the British would not aid them for the expulsion of the Dutch from the Straits, they resolved to combine their forces and try to expel both of these nations at once. It was well that they then did make the attempt, for it proved to them the utter hopelessness of any such endeavour for the future.

The combined Malayan fleet numbered four hundred large and small prahus, carrying one hundred and twenty pieces of ordnance of calibres ranging from six to twelve lbs besides small arms, and about 8,000 men. When the fleet approached Pinang another of nearly equal strength joined it from Keddah. The Rajah had addressed a letter to the admiral of the combined fleet offering twenty thousand dollars if he would attack and destroy Pinang during the night, and pledging himself to co-operate, if the attack should prove unsuccessful, in besieging the place. The Malayan fleets however proceeded to Keddah owing to some want of unanimity amongst the commanders. The Raja then seized or laid an embargo on 30,000 dollars worth of property belonging to

English merchants, demanded a fixed annual payment of 10,000 dollars, and that the British general should defend the sea coast of Kaddah at their own cost, and supply him with a loan of money, and with a contingent of troops and warlike stores at a fair charge, to enable him it may be supposed to defy Siam. Thus the Rajah endeavoured to force on an offensive and defensive alliance. However by this new and suddenly adopted intimidating policy he extorted from Captain Light an advance of 10,000 dollars. But the Supreme Government directed forbearance to be shewn towards the Rajah, as a compensation had not yet been fixed for his estimated loss in trade owing to the British occupation of Pinang.

It can only be said that forbearance produced effects similar to those which it has invariably had under almost all circumstances in other parts of the East.

19th April 1791.—The Rajah again resolved to try an appeal to force. At his instigation a fleet of twenty Lanun boats entered the Pry river which disembogues on the coast nearly opposite the town of Pinang and is distant from the latter only about $2\frac{3}{4}$ miles. On the same day the Bindahara or general of the Keddah forces joined these Lanuns, with his ninety boats or prahus. A land force had also proceed to Pry mouth where it threw up entrenchments, still visible [1848.] The merchantmen then lying in the harbour set sail on the 23rd and on the same day the inhabitants of Pinang asked leave to attack the enemy.

Captain Light again tried to bribe off the Keddah force by sending 5000 dollars to the Bindahara as a portion of the yearly stipend, but it had no effect. The combined Malays now tried to excite discontent in the town, offering a portion of the expected plunder to those who would side with them. On the 9th they sent a declaration of war, in which it was stated that as regarded Keddah the British had promised much, but had performed nothing. Several gun boats were now fitted out to act along with three small armed vessels one of which belonged to some Achinese.

Captain Glass B. N. I. landed on the opposite coast at 4 o'clock P. M. with one company of N. Artillerymen, two companies of Bengal Sepoys, and twenty European soldiers, while four gun boats covered their advance upon the enemy's entrenched position. The latter were not prepared for such an attack and after a feeble resistance were broken and driven off.

At daybreak of the 12th, Lieuts. Rabon and Milne with the vessels and gun boats attacked the enemy who now mustered about 200 prahus. They were hotly received at first, but they soon compelled the enemy to retreat out of sight of the town.

On the 14th he again appeared. The gun boats supported by a Punt having an eighteen pounder gun in her prow, attacked the fleet a second time which fled after sustaining considerable loss and was pursued for four miles. Thus the steady discipline of four hundred troops of all arms enabled them to triumph over a force

which was estimated as betwixt eight and ten thousand Malays. During all of these operations these were only four men killed and twenty wounded on the British side, the enemy's loss could not be ascertained.

After this defeat the Malays directed their warlike energies to piracy, which they found, until a very recent period, to be both safe and profitable. Their mismanagement, and perhaps in some degree pusillanimity on the occasion just noticed, contrasts however, very strongly with the tact and courage which the Lanun and other pirates of these present times have displayed in their encounters, not with a few puny vessels and gun-boats, but with the well manned and armed boats of the British navy.

As might have been expected from a native chief, the Rajah denied all participation in the attack on Pinang, but unluckily his written order for it had fallen into Captain Light's hand, and his own boats continued blocked up in the Pry river. Nevertheless his conduct was overlooked, as he had fairly exhausted every mean by which he could have hoped to dislodge the British from Pinang, and as the latter had certainly been gainers by the original and crafty asseveration of the Rajah that he was an independent prince, but the unsoundness of which the Bengal government had no easy mode at the time of ascertaining, for had the only other party who could have known the truth, the Siamese court, been appealed to, there would under any circumstances have been but one reply, and that adverse to the Rajah's claims. It would have referred to the Malayan history itself of the Keddah country and to their own records in proof of its ancient dependence [a] and to the rebellion against Siam in 1720, and the fact that all its Rajah's before and since that period had been placed in authority by the Emperor of Siam, for evidence of its modern state of vassalage to [b] that country.

The Coromandel merchants brought from that coast in this year to Pinang goods of the value of six lacs of rupees. The Bugis prahus brought gold and silver to the amount of 250,000 dollars, taking opium in return.

12th August 1791.— A preliminary treaty was entered into betwixt the Rajah of Keddah and Captain Light, the principal provisions in which were a yearly stipend to the former in the capacity of Ruler de jure in Keddah of six thousand dollars, so long as Pinang should he retained—provisions to be exported to Pinang from Keddah duty free, slaves and debtors and murderers on both sides to be delivered up, no Europeans excepting the British to be permitted to reside in Keddah.

In 1792 the Rajah notwithstanding all past experience gave umbrage to Siam by aiding or at least countenancing an attack made on the Siamese provinces of Dalung and Sangora by 400 Hajis and 3,000 Patani men, who however were cut up by the

[a] The Abbie Choisy in 1686 notices its dependence on Siam.

[b] M. de Loubere describes the *rebellion*.

Siamese troops. The Rajah saved himself by timely concessions. The Siamese court in order to try the temper of the British chief at Pinang, sent an embassy to him requiring, if not demanding, the aid of two vessels loaded with rice to be used in their war with the Burmese. The request was met with a present of some iron and nails!

1792.—Total estimated value of Exports Drs 317,414, ditto of Imports 1,400,000. The revenue had increased from Drs 992 in 1,788-9 to Drs 23,292.21 in 1793, the total for six years having been 68,777.82.

While the local government had been making rather wild estimates, and proposing to cast the chief burden of taxation upon the cultivators of the soil and landholders, the supreme government directed that every improvement in agriculture should be encouraged. So much for the exclusiveness and short sightedness of local legislation.

1793.—The Supreme Government especially enjoined that particular attention should be paid to the cultivation of the nutmeg tree. It had been supposed that the tree was indigenous to the Pinang mountains, but the tree supposed to be it, was a wild variety indigenous to various tropical countries and worth nothing almost in commerce.

1793.—The disbursements, civil, military, and marine, including two Bombay Cruizers, and the ex Rajahs stipend were Drs 104,797; and the receipts were 116,694, these last being entirely derived from excise—thus

Arrack.....	6,200
Opium.....	3,600
Gambling.....	14,673
Small dues.....	644
Shop tax.....	431
Hog tax.....	90

25th February 1793.—The home government at last sent out the ultimatum that “*no offensive and defensive alliance should be made with the Rajah of Keddah.*” Captain Light died about the latter part of this year.

Although the rather implicit credence which he gave at first to the Rajah's assertion of his independence of Siam, might have led to more serious consequences than it did, still it would appear that he was a man of sound sense, probity and judgement—active, practical, and moderate—that certainly reprehensible credence however secured to the British merchant and to the world the port of Pinang, the most eligible one at this extremity of this straits.

After Captain Light's death the Superintendents were successively Mr P. Mannington and Mr Pigou who acted only.

1795.—Malacca was surrendered by the Dutch in the year 1795 to the British expedition under Major Brown and Captain New-

cowe. Perak was likewise ceded to the British, as if the unjustifiable aggression on and occupation of Perak by the one power conferred upon it in right to barter it over to another.

It is generally well known that the people of Malacca were originally descended from a Malayan colony which emigrated from Sumatra to Singapore, whence having been expelled by the Javanese they fled to Malacca somewhere about the middle of the 13th century. The Portuguese took possession of it in about 1511. They held it until 1641 when they were dispossessed by the Dutch and the king of Johore. The Dutch held it until 1795 when the British took it as above stated for the prince of Orange. It then continued in this condition in the hands of the British till 1818 when it was delivered over to the Dutch. In 1825 Malacca was finally ceded to the British. In 1795 the Dutch ceded Perak to the British.

In January 1796 Mr J. Beanland became Superintendent and on the 3rd of the succeeding April Major F. R. McDonald received the appointment.

1796.—The military force at Pinang was at this time :—

Artillery	27	rank & file & officers & non-commissioned officers.
Europeans	50	do do do do
Sepoys	210	do do do do

1796.—In this year the French fleets were cruising in the Indian seas. No sooner had the Rajah of Keddah learned their approach to the Straits than he again became so eager to gain their assistance in expelling the English, that he foolishly shut his ports against Pinang. On being calmly expostulated with regard to this breach of a treaty which had already existed for five years, he replied that his stipend was inadequate to his losses, which were then less than they subsequently became, and that he desired a new treaty. The local superintendent stigmatised this conduct as villainous, but he should have used a less overstrained epithet, and have considered that it was nothing beyond what should have been expected in a man who had entered into a treaty with a mental proviso to break it when he should find it convenient, and who had thought that he had made a rather losing bargain, although his eyes were open at the time. It is quite plain however that if the British had then abandoned Pinang, the Rajah must either have fallen into the wiry meshes of Dutch or French diplomacy, or have felt the full extension of Siamese rule.

The Rajah still continued to raise his demand, and was backed by a faction at Pinang headed by two English merchants, Messrs. Roebuck and Young. He sent accordingly his Kling [*a*] minister with a letter to the superintendent which was to be delivered on the following conditions only.—The chief servants of the Company were to go down to the beach to receive it. It was to be carried

[*a*] Men from the coast of Coromandel are called Klings.

on a silver salver under an umbrella, the minister was to ride in a carriage, and the attendants were to wear their arms. The arrogance of this Kling was quickly humbled by the anchoring of a gun-boat alongside of his prahu, and this was succeeded by the usual traits of his tribe under similar circumstances, abjectness and pliability.

Nutmeg and clove trees were in the year 1798-9 introduced into Pinang for the first time. The difficulty, uncertainty and loss of time attending the cultivation of these exotics even where they are nearly in situ, was but partially here, where they are exotics, overcome in 1815 to 1820, and will always operate against any great degree of extension of the cultivation.

May 1799. Major McDonald, the Superintendent, died in this year when Mr G. Caunter acted for a while, and in the September following the Rajah of Keddah also died.

The Rajah was succeeded by his brother Chow Wang or Lord of the fort, a title which the Siamese conferred upon him. But he two years afterwards resigned the Government to his nephew (the late ex-Rajah) with the sanction of the Emperor of Siam. The investiture in the Government took place at Bangkok in Siam, whether he had gone to solicit it; and the Emperor conferred upon him the title of *Chow Pangeran*. The Malays assert that by thus early presenting himself at the Court of Bangkok he obtained his preferment to the injury of a more rightful claimant.

1798-99. In 1799, the Chinese became seditious, and it is believed at the instigation of several European settlers. The Chinese had formed parties to protect each other against the laws. This combination has daily its parallel in the present Straits colonies—to the extent of giving secret aid to each other to escape punishment for criminal offences. But on the occasion alluded to the object seems to have been plunder. The Chinese had settled even at this early period at Battu Kawan on the coast of Keddah, opposite to the south extremity of Pinang island. They were consequently beyond the jurisdiction of Pinang. Here they commenced that sugar cultivation which has been continued up to the present day. The acting Superintendent of Convicts suggested, that the Pry river in front of Pinang town with some lands in its banks should be got in order to prevent a rival mart being established there. It is curious that the Keddah Rajah did not carry such a plan into execution; he had indeed contemplated it, but perhaps desisted under the apprehension that it would bring his people into too close a proximity to the British.

(To be continued.)

[We have not deemed it proper to express our dissent from some of the Author's views with respect to the rights and claims of the Malay kings of Kedah; but distant readers ought to know that public opinion in Pinang has always been strongly in favor of them. In 1824 an elaborate work was compiled from official records by Mr Anderson, the Secretary to the Pinang Government, in proof of the right of the king to cede Pinang and his claims upon us for assistance against the Siamese. The Governor and Council concurred in Mr Anderson's conclusions, and the work was printed by their order.---ED.]

**GENERAL REPORT ON THE RESIDENCY OF SINGAPORE,
DRAWN UP PRINCIPALLY WITH A VIEW OF ILLUSTRATING ITS AGRICULTURAL STATISTICS.**

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GEOGRAPHY. Singapore island is situated near the southern extreme of the Malayan peninsula, called by the natives of these parts Ujong Tannah or land's end—from which it is divided by a narrow strait called Silat Tambah, whose general breadth is a mile, but measuring at its narrowest part only $3\frac{1}{2}$ furlongs. The town of Singapore, which gives its name to the island on which it is situated, is termed by the Malays Singapura, a word evidently of Hindu derivation, meaning the city of the Lion, and is well known in Malayan history by its having been a place of great trade and importance prior to A. D. 1252* when it is related that its possessors were driven out by the king of Java, and retreated to Malacca there to found another city which soon rivalled or excelled in mercantile importance its predecessor, as a great Emporium of the trade of the East Indian Archipelago. After the above event the ancient town of Singapore appears to have sunk into the obscurest insignificance, until the attention of the founder of the modern town was directed towards it, partly by the records of its ancient splendour, but mainly by its commanding position on one of the principal outlets from the seas of Eastern Asia, and its central position towards the principal trading nations of the East Indian Archipelago.

The site of the present town of Singapore, was fixed by Sir Stamford Raffles, who took possession on the 6th February 1819, on the same spot which we are led to believe from the perusal of Malayan history, was occupied by the ancient one, viz the space between Sungie Bras Basa, (evidently a channel or fosse constructed by manual labour) and the Singapore river, the front being bounded by the sea, and back by Government hill or Bukit Singapura. This space is now principally occupied by detached buildings, consisting of the Government offices, Court house, Police office, and private dwellings, the mercantile part of the town having been extended over a large space to the south of the Singapore river, formerly principally occupied by an extensive mangrove swamp, but now covered by substantial contiguous buildings forming the warehouses of the merchants and dwelling houses of the Chinese traders and artisans.

The town of Singapore is situated about 2 miles from the South Western extremity of the South East shore of the island, and faces a bay which affords secure and ample anchoring ground for all ships frequenting the port. The flag staff on Government hill has

* Crawford's Indian Archipelago.

been laid down by Captain Ross of the Bombay Marine service in Latitude $1^{\circ} 16' 15''$ North, and in Longitude $103^{\circ} 53' 15''$ East of Greenwich, and Sir Edward Belcher has lately fixed the same position in $1^{\circ} 17' 00''$ North and $103^{\circ} 50' 47''$ East, being a difference of $2' 28''$ in longitude and $45''$ in latitude.

The island of Singapore measures 25 miles 6 furlongs in its greatest length, and 14 miles in its greatest breadth, and contains in area 206 square miles, 59 square furlongs. Dependent on the Government of the island are 75 smaller islands, measuring in all 17 square miles, $63\frac{1}{4}$ furlongs. The boundary of the Residency is limited by an imaginary line drawn through the middle of the *Silat Tambrau*, *Silat Nanas* and *Kuala Santi*. This line divides the British territory from that of Johore, whose chief is a pensioner of the British Government. To the South an imaginary line drawn through the middle of Main Strait and the larger Strait of Singapore, divides the Residency of Singapore from that of Rhio, which is under the government of Netherlands India.

GEOLOGY. Before making remarks on the Geology of Singapore, it will be necessary to premise, that in a country so thickly covered with almost impenetrable forest, its elucidation with minuteness or correctness is extremely difficult, and the difficulty is considerably enhanced when the mind of the observer has been engaged on duties that require careful attention, nor admit of much abstraction. The remarks that I have to offer are drawn from a few slight observations hurriedly noted down on the spots to which my surveying duties led me,—they must consequently be imperfect—as I seldom left a direct path, unless attracted by an object of more than ordinary interest. I had thus no opportunity of following up observations on particular strata so as to connect them from one point to another in their direction, or strike—nor to come to a full apprehension of their extent further, where in cropping out at one place I have not been able to note if they dip down in another—such observations as follow can therefore only be general.

To commence with the town and suburbs of Singapore;—they are situated principally on an alluvial soil, the greater part of which is sandy, and near the shore is raised from 4 to 8 feet above the level of high water spring tides: this sandy plain decreases in height as it recedes from the shore, and as it approaches the hills is succeeded by soil composed of red tenacious clays and blue mud. This sandy plain extends from the mouth of the Singapore river to the mouth of the Rochor, and affords dry and healthy sites for the various residencies and dwellings that front the beach. On the south bank of Singapore river lies an extensive mud flat which where not built upon is covered by the tide; partly on this, as has been already mentioned, the most thickly populated part of the town has been built, but the excellent drainage of which prevents any bad effects to the health of the population located on it. The town occupies the south west extremity of the largest alluvial plain on the island,

which stretches itself out in the form of a triangle, having its base along the sea-shore, between Teluk-Ayer and Siglap, in distance about $6\frac{1}{2}$ miles, and its apex between Fairmount and Kaynan's hill, distant from the shore about 3 miles. The general features of this plain consist of long ridges of sand from 4 to 9 feet above high water mark, generally running parallel with broad bands of clay soils, which do not attain 2 to 3 feet above the same level. The broadest and most extensive sand ridge stretches from Muitigi Tabál to Siglap, having a general breadth of $\frac{3}{4}$ of a mile; there lies another of smaller size between Kallang village and Gelang, again another of very narrow width runs between Buffaloe village and Kallang dale, stretching in a north west direction, and another of the same dimensions from Kallang dale to Payah Lebar, running in an easterly direction. These ridges have evidently formed the ancient shores of the island, until the accumulation of detritus and alluvion had usurped the space occupied by the sea in front of them—and the abundant remains of the exuvæ of shell fish and clusters of coral remain to attest the fact. Smaller alluvial plains are also found between the Small and Large Red Cliffs, and also between the latter and Sungie Changi, which conform to the above description; the others consist of low mangrove swamps, bordering the numerous creeks that intersect the shores—whose soils on the surface are saline, black and slimy, and underneath consist of soft blue mud. The species of shells found in these deposits belong of course to the present geological epoch, and their congeners are to be found on the shores and bays of the island. Beds of coral have been found 2 miles inland on Kallangdale Sugar Estate, about 6 to 8 feet below the surface of ground. From these alluvial plains, situated in the vicinity of the shore, numerous branches strike off and form the vallies through which the principal streams of the island flow; their width varies from $\frac{1}{2}$ to a $\frac{1}{4}$ mile and their general direction is in a north west and south eastern bearing—excepting in the case of the creeks on the north eastern shores of the island which run north easterly. These larger alluvial vallies again bifurcate into numerous smaller ones, which still retain their alluvial characteristics—so slight is their ascent as they approach the interior.

At the Small and Large Red Cliffs soft sandstone is found whose layers are nearly horizontal; between Changi and Sungei Silarang granite is found; at Sungei Tampenis soft sandstone in horizontal layers was observed to be the formation, at S. Loiung coarse sandstone overlayed by angular quartz pebbles. At the north end of Tikong Kichi shales and ironstone in nearly perpendicular strata were observed, at Batu Kapala Tuah granite is found, and between that and Tikong Kichi, on the small island of Sijahat a black and bluish stratified rock is found, not unlike whinstone in texture, but probably sedimentary metamorphosed by plutonic action, opposite to this on Tikong Besar schistose rocks are found

much disturbed—at Tanjong Rawie on the same island sandstone was seen intersected with quartz veins. Pulo Chombun was found to be composed of green stone in perpendicular strata striking south east and north west. At the rocks off the north point of Tikong Kichi hard shaly and schistose rocks were found—near Tanjong Kopo is black porphyry, at Tanjong Tillo' Palei there is a gradation from stratified rocks to greyish porphyry and trap, and further westward the formation takes a more granitic appearance. At Nanas rocks are found, black and blue trap graduating into porphyry, whose base is black with white specks—opposite on the Ubin shore traps are found, and all the western and southern portion of the same island was found to be composed of granite. At Tanjong Pongal soft shales and ironstone were found, but the observations were unsatisfactory. At Kampong Bentan, Baru and Ayer Biru, the formation was assumed to be granite by judging from the appearance of the soil, at Siletar was granite, up Sungei Pongal ironstone was found. At Sungei Sinebong Puteh quartz pebbles were found, at Sungei Sembawang the formation was judged to be granitic. At Sungei Lunchir granite was found, and on both sides of the Strait from this point as far as Sakodei and Kranjie, the formation was found to be the same. At Sungei Danyah soft sandstone exists in horizontal layers. Up the Kranjie Batang Hari was found hard arenaceous shale. At Marambong is clay slate, dip 30° S. strike E. and W.—at Karang Kampong the same formation, dip S. W. 45° strike S. E.—again at Tanjong Blukang dip 90° strike S. E., at Tanjong Labah are sandstones and shales, at Ayer Bajao ironstone, at Sungei Bri the same formation. At Jaman Dudu—granite, at Tanjong Pirmam is purple sandstones and at Pulo Pirmam is purple granite. At Sungei Toan is soft arenaceous shale dip 20° S. strike E. and W. At Tanjong Tanah Runtuh soft shale—at Sirimbun argillaceous shale, to the eastward of this is a purple shale, and advancing further eastward is a red shale, and at Sungei Purumpun are indurated shales. At Sungei Malayu the same is found. At Tanjong Putri siliceous indurated shales are found. At Puruput purple argillaceous shales are found all of whose strata are much disturbed. At Sun Li Kang the formation is shales alternating with sandstones; at Kampong Bhan green and reddish granite was found—at Sungei Morei siliceous shales much distorted. At Tanjong Rawang there is clay slate—strike N. W. and S. E. dip 45° S. W.—at Tanjong Gul clay slate—in the Silat Sambulan and islands adjacent, shales of different degrees of induration and deposition were found, the general strike being N. W. and S. E. At Tanjong Telaga and Ayer Jambu sandstone was found—at Rittan Simangkut ironstone. On Outer Sikra clay slate and ironstone were found alternating, dip 30° S. strike E. and W. At Sungei Benui are shales, at Batu Berlayar sandstone dip 90° strike, N. W. and S. E. At south point of Bukum are shales and sandstones dip 90°

strike N. W. and S. E., at the north end of Simakow shales dip 90° strike N. and S.—at Jong, argillaceous shales are found much distorted, at Sikijang Bera there are sandstones and shales striking N. W. and S. E., but the dips vary from perpendicular to horizontal, and are seen to anticline in one place, at Peak island are sandstones and shales, irregularly deposited. At Alligator, Barn island, Rabbit and Coney, sandstones and shales compose the formation. At Blakan Mati, Pulo Brani, Sikukur and the northern shores of New Harbour, are sandstones and shales of nearly perpendicular dip with the usual strike of north west and south east. At Tanjong Pagar, Tanjong Mallang and Teluk Ayer, is found the same formation but the strata are very irregularly tilted up and displaced. All Tanjong Pagar district is composed of sedimentary rocks varying between blue red and chocolate coloured argillaceous shales to indurated and soft sandstones, the dips are irregular, but the strikes bear about N. W. and S. E. The south and east portion of Claymore district conforms to the above description, excepting in the case of Mount Sophia and Bukit Seligi, where blocks of sandstone broken up and irregular are found, the same is found to exist on the south, east and west frontage of Government hill, the north frontage is composed of strata of clays and shales. In the south portion of Tanglin district are also found clays and shales dipping perpendicularly with a N. W. and S. E. strike. The south eastern boundary of Toah Pyoh, the north west of Rochor, the north part of Kallang and south part of Amokiah are found to contain sandstones, Siglap and landward also appears of the same formation. Granite has been observed one mile N. W. of Kallangdale sugar works, also behind to the north of Balestier's estate, again near Perth hill, Green hill, Monks hill and the Briers—further in many parts of the interior such as at Bukit Timah, Bukit Ulu Mandai, Bukit Panjang,* in Toah Pyoh Lye and Toah Pyoh and the soils in the vicinity of those parts of the interior of the island of Singapore, always betoken a granitic origin.

With the above recorded observations, added to many that have not been noted down, I draw the following general conclusions as to the disposition of the geological formations of the Singapore residency. 1st that the western and southern portion of the island, amounting to about $\frac{1}{4}$ ths of the whole, (with the exception of a small granitic patch at Pulo Pirgam) together with all the islands adjacent, are composed of shales and sandstones of irregular dip, but whose general strike is N. W. and S. E. 2nd that the centre and northern portion of the island, amounting to $\frac{1}{4}$ ths of the whole, is composed of granites. 3rd that the middle of the South Eastern portion stretching along the Coast, and amounting to $\frac{1}{4}$ th of the whole, is alluvial. And 4thly that the remaining eastern portion (with the exception of a granitic patch near Changie) is composed of sandstone whose strata are nearly level, and which is connected

* Mr J. R. Logan.

with the western stratified portion of the island by a thin band or zone, that crops out from under the alluvial portion. and resting on the granitic between Kallang dale and Bukit Seligi. Further that Pulo Ubin is entirely of plutonic origin, while the remaining islands of Tikong are mostly sedimentary, with strata very much tilted up and displaced.

The strata of the sedimentary portion of the Residency are non-fossiliferous—much that would interest the observer is consequently wanting. A few specimens of petrified crustacea and other sea animals, have been found lying on the surface near the sea shores amongst ferruginous gravels, or on rocks over which diluted oxidized iron percolates in the vicinity of the residency, and a fossil tree is reported by Dr Bland to exist on the eastern coast of Johore near Sidili. There are no valuable minerals found on the island of Singapore—tin is likely to exist as it is found in great quantities on Banka, and at Malacca whose formations are analogous. Steatite is found imbedded in the soft arenaceous rocks of the Red Cliffs, bisulphurate or iron pyrites are found imbedded in the strata of Pearls' hill in small quantities. Iron stone rubble is found in most parts, in thicknesses varying from 2 feet to $\frac{1}{2}$ an inch, at a depth of 1 to 6 feet from the surface of the soil. This layer of ironstone I have not observed to take the form of the true laterite of the Indian Geologist, though it is generally termed so here, but I have observed it on Bukit Pungur in the Malacca residency, where the natives cut it up for building purposes into square blocks, and which could be adapted to all the purposes described by Lieut. Fr. Outram B. E. to which it is put in the southern Concan.* The laterite I have observed to be much modified, by the substrata on which it may lay; in ferruginous earths or rocks it contains a large percentage of iron, and has the appearance of being much scorified while on the porous arenaceous earths of the eastern part of the island, there is a great absence of iron in the gravel layer, and in some places it takes the form of quartz angular pebbles. An interesting subject remains to be noticed in the grooved granitic rocks of Pulo Ubin which are situated near Pinang Rawang,—these have been elaborately described by Mr J. R. Logan the Editor of the Journal of the Indian Archipelagot. I cannot attempt to do justice to the original description in this report, not even a short abridgement can be given. The author says that these rocks occur in granitic masses varying from 20 to 50 feet in height, and have none of the crystalline prismatic structure of basaltic cliffs. They present an extraordinary appearance from the beach, having their sides grooved and fluted and presenting regular furrows and ridges, sometimes taking the form of ancient temples rudely sculptured, with ranges of colossal mishapen images—many of the grooves do not exceed a few inches in depth and breadth, but others are $2\frac{1}{2}$ feet deep and 2 feet broad—one was observed 6 feet

* Tran's. C. Engineers of G. Britain.

† Trans : of the Batavian Society of Arts and Sciences.

deep and 2 feet broad. But as it would be out of place here to follow the author thro' the line of scientific argument and research displayed in the elucidation of the problem of the origin and structure of these wonderful freaks of nature I must leave it for the next subject

PHYSICAL GEOGRAPHY. The approach to Singapore is marked by no very remarkable undulations or elevations of its outline—it is more characterized in the whole by an evenness of surface. and like all islands of the Indian Archipelago by the rankness of its primeval vegetation. The highest point of the island is Bukit, Timah which I lately made to be by the mean of several observations 519 feet above low water spring tides, besides this there are three or four eminences that attain the height of 300 feet, such as Mount Faber, Bukit Panjang and Bukit Ulu Mandai, but the general heights of its ridges and elevations do not exceed 80 to 120 feet—and these are undulating and sloping at the eastern part of the island, while at the western part they are more prominent and uneven, following the character of their respective formations as described before. The island is intersected by parallel ridges, which run in a north western and south eastern direction, with the exception of such as lie in the north eastern portion of the island and these run in a north easterly direction. They no where lose their continuity, but can be traced from one shore of the island to the opposite. A central ridge which may be termed the back bone of the island bisects it; this can be traced running nearly due east and west from Carang Campong and Tanjong Changi, dividing the island longitudinally into nearly equal parts, and on either side of which the water shed falls north and south. The Kallang river which is the largest stream in the island, causes an exception to be made, as it rises considerably to the north of the general bisecting line. From the middle ridge all other ridges take their departure in a north western and south eastern direction with the exception above noted. Narrow swampy valleys penetrate between the spurs and offshoots of the main ridges. The beds of these valleys seldom attain an elevation of 15 to 20 feet above the level of the sea, of which they had originally formed arms and inlets. The spunginess of the decayed vegetation on their surfaces combined with their levelness, assists much in retaining the moisture brought by the rains, thus preventing great floods or droughts; the supplies are consequently equal and abundant throughout the year.

For the following meteorological observations I am indebted to an excellent paper on the Medical Topography of Singapore, by Mr R. Little, derived from tables furnished him by Captain Elliott, M. E.* I have taken the liberty of abridging his remarks and slightly reforming the tables for the purposes of this report. Singapore, though within 80 miles of the equator, through its abundance of moisture, either deposited by the dews or gentle

* Journal of the Indian Archipelago.

refreshing showers, keeps its atmosphere cool, prevents the parching effect of the sun, and promotes continual verdure. It never experiences furious gales. If more than ordinary heat has accumulated moisture and electricity, a squall generally sets in, followed by a heavy shower of rain, these squalls seldom exceed one or two hours in duration. According as the monsoon blows you will have them rising in that direction. In 1841 during the north east monsoon there were 4 squalls from that direction—but the most severe and numerous are from the southwest, which are called Sumatras—and they most frequently occur between 1 and 5 in the morning. The north east monsoon blows from November to March, and after which the wind veers round to S. E. and gradually sets into the S. W. between which point it continues—in May, June, July and September. The north east monsoon blows more steadily than the south west one. The temperature of Singapore is one or two degrees cooler during the former than the latter, which also brings more rain. It is further remarked that the wind always lulls at night during the height of either monsoon. During the south west monsoon a wind from the south prevails at times, which is termed by the natives Angin Jawa or Java Wind, because it comes from the direction of that island. This especially exists in September, which is attributed to the usual cooling land breeze being replaced in the mornings during that month by the hotter breeze from the sea, as we advance into the interior this hot breeze is not felt.

Table on the Winds.

Months.	Number of hours in which the wind is in each quarter.				Remarks.
	N.W.	S.W.	N.E.	S.E.	
January	1,389	94	2,097	126	These observations were taken during 5 years.
February	645	105	2,154	277	
March	422	276	2,145	537	
April	746	1,213	1,106	655	
May	524	1,070	356	1,028	
June	343	1,627	286	1,549	
July	456	2,142	185	925	
August	661	1,737	210	1,080	} 4 years.
September ...	481	1,332	287	704	
October	941	1,048	726	347	
November ...	1,085	412	431	231	
December ...	1,207	237	1,370	162	3 years.
Total ..	8,899	11,293	11,347	7,621	4 years.

How beautiful an illustration, exclaims the writer, of the little

variation we find in the general laws of nature, though how often do we remark, how changeable is the weather ! From these observations carried on nearly five years, the wind blows from the north east during 474 days 9 hours from the opposite direction S. W. during the contrary monsoon 470 days 13 hours, another deduction is made that during the months of December, January, February and March the wind blows more continuously from the north east, than any other direction, while in the months of June, July, August and September the wind is principally to the south west. During November the prevailing wind is north west while its antagonist south east blows in the month of June. Another fact is elicited,—viz that in April we have the winds blowing from the direction of N. W. and N. E. 1852 hours and from the S. W. and S. E. 1868 hours. In October we have them blowing from the N. W. and N. E. 1567 hours and from the S. W. and S. E. 1395 hours, thus the wind in changing from the N. E. monsoon to the south west seems to do so gradually from N. E. to N. N. E. then N. W. to west, then S. W. and in changing from the south west to the north east retraces its progress by retaining its westerly direction and not reaching the N. E. by south, then S. E. and East but adopting the same direction by which it reached the S. N. from N. E., viz : a westerly.

In the same paper the following facts are announced with regard to the fall of rain and quantity of moisture in the atmosphere. In 1820 rain fell on 229 days, in 1821 on 203, in 1824 on 136 and in 1825 on 171 days giving an average on 4 years of 185 rainy days and 180 dry in a year. The quantity of rain that falls is well illustrated in the following table :—

Fall of Rain at the Singapore Observatory shewn by the number of Inches.

Months	1841	1842	1843	1844	1845	Average
	Inches					
January.	3.750	22.585	18.070	102.194	54.624	13.656
February.	6.750	10.900	3.050	6.923	27.623	6.905
March.	5.009	7.220	8.045	4.150	24.424	6.106
April.	3.019	10.071	5.645	12.300	31.035	7.758
May.	6.095	9.003	9.000	7.775	31.373	7.968
June.	7.490	6.320	2.270	6.025	22.105	5.526
July.	7.228	5.098	8.500	5.890	26.716	6.679
August.	7.095	6.025	5.545	5.750	24.415	6.103
September.	4.220	4.250	4.055	5.075	17.600	4.400
October.	4.070	21.005	12.145	10.200	47.420	11.855
November.	12.225	9.420	9.560	6.090	37.265	9.316
December.	6.175	4.350	3.415	8.750	25.690	6.422
Totals.	73.126	116.247	92.300	891.164	370.790	92.697

It will be observed from the above that the greatest fall of rain during these four years occurred in January 1842 and the least in June 1843. The year 1841 was unusually dry, 73 inches only having fallen, while the succeeding was unusually wet, 116 having fallen: this was caused the unusual dryness of January and October in the former year and the unusual wetness of both in the latter. By examining the average for each month, the seasons will be found to be very equable, the least average being for September and June which respectively have 4.400 and 5.526 inches and the greatest being for January and October respectively 13.656 and 11.855 inches. During the other months the fall of rain ranges from 6 to 9 inches. The annual average fall is 92.697 inches, a quantity which is about 2 inches less than the average fall for the latitude of Singapore as stated by Humboldt, who gives 96 inches as the average fall at the Equator.

With regard to the temperature of the atmosphere, in 1841-2-3-4 and 5 the mean was 81.247, the lowest mean of a month being for January 79.55, the temperature increases to May, June and July which have 82.31, 82.29 and 82.24 respectively. It is concluded from the above that the temperature of Singapore is 9.90 less than other localities in similar latitudes, and that the range betwixt the mean temperature of May and January extends over 2.76 and adding up the mean temperature of each month of each year, we have the mean temperature as follows

Of 1841	1842	1843	1844	and 1845
As 81.28	81.61	81.09	80.82	and 81.66

From which this inference is drawn that in five successive years the mean temperature did not vary one degree.

Deductions made from other tables gave the maximum temperature for 5 years at 87° 5 and the extreme minimum 74° 7, the former occurred in June 1842 and the latter in January 1843, giving the greatest range as 9° 8. To this I may add that I have seen the thermometer down to 66° 5 in January of the present year, at Bonny Grass the residence of Dr Little, where the thermometer was hung in a building, well protected from the sun, but open on all sides.

From observations taken by Captain Davis during 6 years, the mean temperature was

in	1820,	1821,	1822,	1823,	1824 and 1825.
as	79.5	79.4	80.2	79.8	81.0 and 81.4

these observations were taken at 6 A. M. and noon, and the following taken at the Singapore observatory during the same hours give

In	1841,	1842,	1843,	1824 and 1845.
As	82.0.	82.08	81.58	83.7 and 84.04

thus showing that in 20 years the temperature of Singapore town has encreased 2° 48. The cause of this advance of the temperature is assigned to the country within 3 miles of the town being now clear of jungle and cultivated, which formerly was covered with primival forest.

Dr Little concludes his remarks by stating the mean annual solar radiation to be $121^{\circ} 50$, the mean terrestrial $66^{\circ} 10$ and the hourly mean reading of the Barometer 29.884 inches which never varies more than the 20th of an inch.

Thunder showers frequently occur, particularly at the breaking up of the monsoons. That interesting and wonderful atmospherical phenomenon, called a water spout, is often to be seen in the seas and straits adjacent; they would more properly be called whirlwinds charged with vapour. They occur generally in the morning between 8 and 12 o'clock, and rise to the height of $\frac{1}{2}$ a mile, in the distance appearing like large columns supporting the heavy masses of Cumuli above them. I noticed in October 1841 six of these attached to one cloud, under action at the same time. In August 1838 one passed over the harbour and town of Singapore, dismasting one ship and sinking another, and carrying off the corner of the roof of a house in its passage landward. No other atmospherical disturbances of any moment occur. The typhoons of the China Sea or Bay of Bengal, do not reach these parts, nor are there hot winds to parch the land. The equable and quiet state of the atmosphere and seasons of these regions consequently create analogous properties in the face of indiginous vegetation, evergreens abound, few trees shed all their leaves at one time, and many of the fruit trees produce all the year round; such that have their seasons of fruit will frequently produce crops out of season, having small irregular ones at intervening times. This continual verdure is perhaps more grateful to the eye of the stranger than to those who have been long accustomed to it; to the former it bears the pleasant appearance of exuberance and fecundity, where the lofty forest not only hangs over the beach but clothes the mountains to their tops, so unlike the sterile bareness of higher latitudes—while to the other the continued sameness palls the senses, which lack variety and call for a sterile winter only that they may renew, with doubly keen perception by the contrast, their acquaintance with the beauties of returning summer that here always reigns.

(To be continued.)

THE PIRACY AND SLAVE TRADE OF THE INDIAN ARCHIPELAGO.*

IN September 1820, a brig coming from Sumanap fell into the hands of pirates near Linga, but was recaptured by the royal corvette *Venus*. During 1819-20 the pirates made many descents upon the northern coast of Java, carrying away many persons as prisoners and burning the government posthouses, thus rendering the road by no means safe, a circumstance which was probably one of the causes for afterwards making the line of communication more inland. In 1821 the existing arrangements for the suppression of piracy being found inadequate the Netherlands Colonial marine was improved and augmented. In 1821 the power of Netherlands was established in the island of Biliton and the inhabitants engaged to renounce piracy. The Governor General Baron Van Der Capellan, in reporting this circumstance to the Colonial department, states, that in consequence of the abandonment of Palembang in 1819, and the check which the expedition sent against it had sustained, the insolence of the Biliton pirates, who regarded themselves as dependents of Palembang, had been so increased, that it had become absolutely necessary, for the protection of the trade which was daily more and more disturbed, to take adequate means for remedying this constantly increasing evil. After the reconquest of Palembang it was determined to bring the piratical inhabitants of Biliton to subjection. This was accomplished without hostile measures being required, through means of a skilful native negotiator to whom the Governor General entrusted the business. In 1822 an expedition was sent by the Netherlands authorities against the pirates of Tontoli and other places on the north-west coast of Celebes. It consisted of a royal frigate, five vessels of the colonial marine, twenty-four native vessels, and a thousand men of the native auxiliaries. A great number of pirate haunts and villages were burnt down, fifty of their prahus destroyed, twenty-three pieces of cannon taken and forty pirates put to death. In the year 1823 a private brig, the *General de Kock*, was taken between Indramayu and Cheribon, on the northern coast of Java, by some piratical prahus. The *General de Kock* left Batavia on the 26th October, and on the 29th was spoken by the *Maria Catherina* who reported having been attacked during the night by a piratical force. About half-past eight the same morning, when abreast the point of Indramayu, and about 10 miles from the shore, the *General de Kock* saw seven prahus pulling towards her, with their masts and sails lowered. When they neared the brig she fired a gun and hoisted her colours, but they still approached beating their gongs. The brig again fired, on which they ranged up, three under the stern and two on each

* Continued from p. 581.

bow, and opened a fire. The brig could not bring her guns to bear, it being quite calm and having no steerage way, but she fired as opportunities offered until all her ammunition was expended. The pirates kept up a constant fire, and so soon as the brig ceased firing they pulled up and boarded her, upwards of five hundred men jumping at once on deck. The Captain and Mate jumped into the sea, and clinging to fishing stakes were rescued after being in the water upwards of twenty hours. The pirates seized the owner, Mr Thornton, whom they immediately put to death. For a long time nothing was heard of the vessel, which the pirates took with them, but a brig answering to the description of the *General de Kock* was afterwards reported to have been wrecked or run aground on the island called Pulo Bauwal, a little to the north of Cape Sambar on Borneo, a noted piratical haunt, and having been cleared of the goods in her was set on fire. The pirates were thought to belong to Reti or Linga, and part of the cargo found its way to the latter place. The native part of the crew of the *General de Kock* who survived the fight, were put on board one of the pirate prahus, which separated from the rest and sailed to a place in Borneo called Tanjong Kalowang a little to the west of Banjer-massin where they were sold to the inhabitants at sums of from 7 to 14 Spanish dollars each. Four of them afterwards seized a boat and made their escape and succeeded in reaching Java.

The pirates of the Moluccas at this time had attained considerable strength, principally under the command of a renowned chief named Rajah Jilolo, a descendant of a Tidore prince of the same name, who about thirty years previously, on the sultan and his son being deported to Ceylon, had set at defiance the power of the Dutch Company, and taken possession of the Alfurian districts under the jurisdiction of Ternate. He was afterwards obliged to take refuge in the island of Ceram, from whence he more than once sent out expeditions against the Dutch settlements. Towards the close of the year 1823, Mr Merkus, the Governor of the Moluccas, despatched a corvette to obtain information of Rajah Jilolo's proceedings. The corvette soon returned and reported that Rajah Jilolo had built a fort at Hatiling on the north coast of Ceram, and that a number of native vessels were found there. Rajah Jilolo refused an interview to the commander of the corvette, and at last opened a fire from the fort upon her. After an unsuccessful attempt to cut off the prahus lying in the river Hatiling, the corvette returned to Amboyna. Mr Merkus immediately sent two corvettes and a detachment of 60 soldiers against these pirates. The two vessels came to anchor before Hatiling on the 5th October, and a boat was sent on shore with a letter from the Governor in which the Rajah was invited to proceed on board these vessels to Amboyna with his first secretary, and a person called Kaptain Laut, and there make the arrangements with the Netherlands government which he had hitherto neglected. An hour was

allowed for a reply, but none being sent a boat was a second time despatched on shore and returned with a note which stated that the Rajah was not at Hatiling, and requesting to be allowed time to communicate with him. This answer was regarded as a mere pretext for gaining time, nothing having been said of the Rajah's absence when the first boat was sent, and the two corvettes immediately opened their fire, which the fort briskly returned. The same day the soldiers tried to carry the *benting* by assault, but they failed owing to a deep ditch by which it was defended. The following day the fire upon the fort was renewed and soon silenced that of the pirates, and a number of natives auxiliaries having arrived by land, a simultaneous assault was made by them and the soldiers and marines, by which the fort was carried. The Dutch troops had six men wounded in the assault, and the native auxiliaries a large number. Besides taking a number of pieces of artillery, twenty-four prahus were captured or destroyed. On the side of the Dutch there were altogether nine men killed, and twenty wounded. The *benting* was rased to the ground, and a fort built at Sawaay, garrisoned by an officer and 35 men for the protection of the population of Sawaay. The principal object of the expedition was however unattained, Rajah Jilolo having fled into the interior of the country, and his submission was still to be accomplished. This was obtained in the year 1825 by negotiation, the Rajah consenting to establish himself on the north coast of the Great Ceram, under the protection of the government. His brother the prince Asgar was placed at the head of the settlement, with the title of Sultan.

In 1824 one of the articles of the general contract concluded with the princes of Celebes, stipulated that the vessels of these princes, to be admitted into the Netherlands possessions, should be furnished with Dutch passports, and should conform in all that regarded the navigation and trade to the regulations of the government. This stipulation was justified on the ground that it was necessary to check the pirates, who committed frightful devastation on the trade of this part of the Archipelago. The most formidable bands of the Celebes pirates were established at Tabunko and Toballo, two places situated to the southwest in the bay of Tolo, in the kingdom of Luhu. In the same year a treaty was concluded with the Sultans of Ternate and Tidore, by which these princes bound themselves to assist the efforts of the government against the pirates with men and ships.

Mr Muntinghe, in a report made in 1821, mentions as places on Borneo which afford shelter to pirates, Sarawak, Kelakka, Moka, Seribas and Palo, to the north of Sambas, and Succadana, Matam, and the islands of Mankap, Panumhangan, Serutu and Carimata to the south of Sambas. In the south of Borneo, Kottaringin, Seway, Sintang, Pagatan, Passir, Koti and Berou, also more or less participated in piracy.

1824.—During this year the pirates were very troublesome on the coast of Java, another brig having fallen into their hands, while they harassed the trading prahus incessantly, cutting them off and murdering or making slaves of the crews. They also exercised their profession in the immediate vicinity of Singapore, and it is believed that they might often be found in the harbour under the guise of trading prahus, the times having changed since Singapore was a favorite rendezvous of the Johore and other pirates where they could show themselves openly. Only 14 years previously, the boats of the British man-of-war *Greyhound* cut out and recaptured from one of the most secure spots in the present harbour of Singapore, an European vessel which had been taken by the pirates.

A small Spanish squadron this year was despatched from Manila which inflicted considerable damage on the pirates in the Sulu sea, destroying their fortified places, and carrying away the brass guns and other property which they found in them.

Two French vessels from Bourbon visited Bali for the purpose of purchasing slaves. They carried away several hundreds of persons, male and female, young people being taken in preference to adults.

In March this year, a treaty was concluded at London between the British and Dutch governments, by an article of which both powers bound themselves to assist in suppressing piracy.

Towards the end of 1824 and beginning of 1825 several transports with troops for the expedition on Celebes left Java for Macassar. Amongst these was the *Fathal Barie*, an English ship, which had on board a detachment of 225 soldiers under the command of Major Gey. Some days after leaving Surabaya they saw two native vessels steering in the same direction as themselves, and which began to take in sail as if to wait for the transport. They were thought to be pirates and Major Gey immediately took means to surprise them. Arms were furnished to the soldiers, the guns loaded and the men kept out of sight. The two pirates kept together and appeared as if preparing to board. When they came within range, the four guns were discharged and the troops shewing themselves opened a brisk fire of musketry. The two commanders of the prahus were then ordered to come on board with their passes. After hesitating for some instants, during which the pirates could be seen throwing several pieces of ordnance over board as secretly as possible, they obeyed the summons. The false passes which they carried and the guns which were still on board, although they endeavored to cover them from sight by sails, sufficiently proved that their character had not been mistaken. The troops received orders to hold themselves ready to recommence firing, and the gunners placed themselves with lighted matches beside their guns. Major Gey then sent a sub-officer with a strong force in a boat to bring part of the pirate crews on board the *Fathal Barie*, at the same time warning the pirates that

they would be destroyed if they made the slightest resistance. At the moment the detachment left the *Fathal Barie*, the pirate chief pronounced from the deck of the vessel some unintelligible words in a loud voice, but which were afterwards found to be an order to commence the massacre (*amok*). A number of pirates were secured, their krises, which they wore concealed, taken from them, and they were put in irons, while the boat returned for a second load of pirates. Their chief probably seeing by these effectual measures his project frustrated, then repeated his cry of *amok*, and drawing a kris which he had hitherto kept out of sight, threw himself upon Major Gey, who, with his back turned, superintended the execution of his orders, and he would have certainly been stabbed had not the captain of the vessel been on his guard, and floored the pirate by a blow from a gun ramrod which he had in his hand. The other chief who was standing near the bow under the guard of two soldiers, struck them successively with his kris and threw himself into the water, but he soon sank under a shower of balls. The death cry had been heard on board the prahus at the moment when a portion of the detachment was on board the pirates. A number of the pirates who had hitherto kept themselves concealed below the deck now suddenly shewed themselves, armed with pistols, klewangs, and krises. In spite of the superiority of the pirates and the fury of their attack the party from the ship kept their ground for sometime, but the increasing numbers of the enemy and the loss of several of their own men forced them to retreat. They then drew off to a little distance and opened a well-directed and sustained fire upon the pirates. The sails of one of the pirates was all at once seen to be on fire and the flames spread so rapidly that the vessel was soon in a blaze and sank after an explosion. The boat still fired upon the other pirate and upon the crew of the sunken vessel who had thrown themselves into the sea and were trying to gain their consort. This prahu however took to her oars, and although the other boats of the *Fathal Barie* joined in the chase, she succeeded in escaping, but much crippled by the fire of the ship and her boats.

1825. In the commencement of this year Mr Angelbeck was sent to Rhio and Singapore, with a view amongst other things to obtain the coöperation of the English authorities in the suppression of piracy. Mr Angelbeck reports to the Governor General that he thought it "a favorable opportunity to converse with Mr Crawford, the English Resident at Singapore, on the subject of piracy, and to inform myself through him if the superior authorities in Bengal had any intention of taking measures for its repression; shewing him how much more interest than formerly his government had that the navigation and commerce in the Archipelago should not be disturbed, I represented to the Resident what a sinister influence this scourge exercised upon the prosperity

and civilization of the islands of this Archipelago; how the shackles which piracy imposed on trade and navigation impeded the developement of their industry and stifled in them all desire to labour; and the necessity of putting an end to piracy. I also represented to him, as my own personal opinion, that the most sure means of arriving at the end proposed would be for the English and Netherlands Governments, to take measures a little more uniform for combating the pirates, and to act in this matter by a junction of their forces. The resident answered me that the subject had already for a long time seriously occupied him, and that he had the intention of presenting to the Governor General of British India a project upon the means to be used for the expulsion of pirates. I hope indeed, added he, to be soon in a state to realise this plan. He entered fully into my views of the manner in which this ought to be done to succeed, and, making the observation that steamboats ought to be made use of, he augured the best results from their employment, but he regarded the complete expulsion of pirates, by means of the ordinary cruizers, as very difficult, not to say impossible. He thought these vessels ought to cruize constantly between Java and Pulo Pinang. They ought to traverse incessantly the Straits of Malacca, Rhio, Banka, and along the coasts of Java and Borneo and purge them of pirates; these, disheartened by seeing their designs everywhere frustrated, would be forced to seek other means of subsistence; and the terrible plague would come to an end. The resident of Singapore appeared to have made this subject the object of great consideration. He also desired much to see the two governments united in their efforts against piracy.

The new contract made on the 4th August 1824 with the princes of Johore (relating to the cession of Singapore) contains an article which interdicts their subjects from piracy; it appears to me that this is a proof of the sincerity of the declarations which Mr Crawford lately made to me."

Mr Angelbeck in his general report of 14th August 1825 says "I have constantly placed before the eyes of the viceroy of Rhio, Rajah Jafar, that, to arrive at a certain degree of prosperity and well-being, it is necessary to adopt a system of government more energetic and at the same more liberal; and I have given him the assurance that government would be ready to assist him in this matter. I have always placed in the first rank that the principal means to be employed would be *to repress and eventually extinguish piracy*. The two principal piratical chiefs of the Malay empire are; the Panghulu Hamba Rajah of Mapar who is obeyed by all the so-called *Rayats* or *Orang Laut* of the islands situated in the waters of Linga;—and the Rajah Lang, in the island of Bulang, under whom are all the *Rayats* of Gallang, of Bulang and some other islands situated at or near to the entrance of the straits of Malacca.

"The *Rayats* or *Orang Laut* do not appear to belong to the

Malay race ; there is, at least, a great difference between an *Orang Malayu* and a *Rayat*. The language is, with trifling exceptions, the same ; it is in the character of these two people that the principal difference is found. This fact may be explained by saying that this arises from the *Orang Malayu* having attained a higher degree of civilization ; and it is not for me to contradict this explanation. Those *Rayats* in their expeditions are obedient to the orders of a chief who takes the title of panglima, and who is ordinarily of Malay origin. The two head chiefs, at Mapar and at Bulang, have been able to attach the Panglimas to their interests, by furnishing them with boats, munitions of war and provisions ; receiving their share of the booty made in the expedition.

"It may be confidently concluded from the preceding that, to put an end to piracy, Panghulu Hamba Rajah and Rajah Lang must be persuaded to encourage their subjects to change their brigand life for more peaceful pursuits, the fishing of *agar agar*, of tripang, of turtle—agriculture and the arts attached to it.

"The repression of piracy will long continue a very difficult task in these parts. I do not think, at present, that we can dream of extirpating it entirely. The people are attached to it as to an industry which they have inherited from their ancestors ; so that it is impossible to convince them that it is criminal to addict themselves to it. The Orang Laut for a long time have found their livelihood and their profit in sweeping the sea ; they live on the water from preference.

"I have many times represented to Panghulu Hamba Rajah at Rhio as at Mapar, that the Dutch government earnestly desires that on his part as chief of the Orang Laut he would do all that he can to make them forsake this odious trade. I have reminded him of the punishment which will overtake him and his followers if they do not fulfil the promises they have solemnly sworn to ; and in the other case of the protection and assistance upon which he could reckon. I have told him that the patience and forbearance of the government is at an end, and that although he appears to turn a deaf ear to any warning, rigorous measures are to be taken to bring to their duty the subjects of his ally. Panghulu Hamba Rajah has assured me, in presence of Tunku Said Mahomad Zein viceroy of Rhio, whose zeal for the good cause I cannot sufficiently praise, and of Ibrahim, the Selawatang of Linga, that he most certainly proposes to turn the Orang Laut from piracy, and to engage them to chuse occupations productive of benefit to all."

Mr Angelbeck advocated the re-establishment of the fishing of *agar-agar* and of tripang, which the orang laut had for sometime been forbidden to pursue, subject to a system of checks by means of passes &c. as the only means by which the propensity of the Orang Laut could be repressed, short of their total extirpation. A treaty was concluded with Panghulu Hamba Rajah containing

provisions of this nature, and the resident at Rhio was empowered to conclude a similar contract with Rajah Lang.

In this year Mr Van Grave, Resident of Sambas, left his residence in a native prahu for Pontianak, accompanied by his Secretary. This vessel was attacked by eight piratical boats and sent to the bottom, and Mr Van Grave and his companion perished from the fire of the pirates. The schooner *Johanna* of the colonial marine destroyed two piratical prahus near Indramayu and Sedarie in September and October, with the loss of Lieut. Timmerman who died from the effects of wounds received in action. In the month of October H. N. M. schooner *Castor* rescued the Dutch trading brig *Sara Theodora*, W. Borgen, from a fleet of pirates which were on the point of carrying her.

In April a fleet of eight pirate prahus appeared in Malacca Straits between Malacca and Salengore, for the purpose of cutting off some Siamese junks returning from Pinang to Singapore. One of the junks kept up a running fight with the pirates for two hours, and another after an engagement with them effected her escape into Malacca, having had one of her crew killed. A trading boat coming to Singapore was chased by these pirates, three of the crew killed, and the rest only saved their lives by jumping overboard and swimming ashore where they hid themselves in the jungle. The boat was plundered and set adrift.

A Chinese junk from Hainam struck upon Romania reef in entering the Straits of Singapore. The crew, 22 in number, immediately abandoned her, taking to their boat with a few chests of raw silk. After rowing some way along the shore they were attacked by three Malay boats who threw spears at them and upon boarding them commenced stabbing the Chinese although they were totally unarmed and offered no resistance. The Chinese were forced overboard, but the Malays still pursued them so that only five reached the shore alive, of whom three were badly wounded.

The English schooner *Mary Anderson* from Malacca to Singapore got ashore and was immediately surrounded by Malay boats. The crew were taken out by two Dutch gun boats and brought to Singapore, and as soon as they quitted the vessel the Malays commenced plundering her. An officer and a detachment of 25 sepoy were sent, who succeeded in recovering the principal part of the cargo and seizing two of the principal depredators.

A Chinese junk proceeding from Malacca to Pinang was attacked and taken by pirates near the Sambilans. The crew escaped in their boats and were picked up by an English vessel.

A large fleet of pirates assembled amongst the small islands in the Carimatta passage and a body of them made a descent upon the island of Billiton and nearly succeeded in obtaining possession of the Dutch factory—they were however driven off with considerable loss.

(To be continued.)

THE LANGUAGES OF THE INDIAN ARCHIPELAGO.

By J. R. LOGAN.

II.

PRELIMINARY REMARKS ON THE GENERATION, GROWTH, STRUCTURE
AND ANALYSIS OF LANGUAGES.*Preface.*

To some of our readers an apology may be required for the introduction of a paper on a subject generally regarded as dry and uninviting. We assure them that we have no taste for philological inquiries in themselves, and that our sole object is to lay a sufficiently broad and solid foundation for descriptions of the races who inhabit the different islands of the Archipelago. Those who have given their attention to such subjects know that the language spoken by an unlettered people tells us better than anything else what their mental character and state of civilization is, how far they are allied to other nations and tribes, and where they originated. Language, from its very nature, leads occasionally to enquiries that are somewhat abstract, but much of this character is apparent only. The full investigation necessary to get at the facts and true principles of any subject has a similar repulsive aspect to the general reader, until the results are presented to him from many sides and the science becomes popular. It may appear a bold anticipation to say that the characters of languages, as illustrative of the genius and alliances of different nations, will in a few years become a highly popular subject. This however we feel certain will be the case, and we are persuaded also that those of the Archipelago and the allied races of the continent will excite a high and peculiar interest. They do so now amongst the yearly increasing number who are attracted by the rising and fascinating science of ethnology, which of all others is destined to take the deepest and most permanent hold on the public mind in civilized countries. The appreciation of the remarkable and instructive peculiarities of the East Asian and Malay-Polynesian languages, and the light which they throw on the history and development of the human mind in all its phases, now confined to the few zealous cultivators of that science, will speedily become general. It would be a lasting stigma on this Journal, conducted amidst the most polyglot community in the world, and a main object of which is to describe a multitude of races, if it remained silent on these subjects until this result was brought about, and public opinion forced it to embrace them.

In the text of the present paper we have endeavoured to indicate rather than fully explain or investigate, some views of language which may tend to arrest the attention of those of our readers who have not hitherto attended to the subject. In the notes we have occasionally pursued some of these views a little further, and in a subsequent paper have added illustrations of structure &c. from the Tartarian, Burmah-Chinese, and Malay-Polynesian languages, which will have more value for the philological reader than the general principles of the text. Ethnology only attends to philology so far as it is connected with and can serve to unlock the general history of the development of man, physically and intellectually, and the particular history of races. But without the same comprehensive and minute examination and comparison of languages, which philology inculcates for its own purposes, it cannot yield satisfactory results for ethnology. In fact, in the hands of the ethnologist, the study of languages only becomes less laborious and dry, because multitudes of details are united by principles of the highest importance and interest in the history of mankind. The facts to be observed are the same in kind and number, but the mode and the object of associating them are different. The more comprehensive our views, the more easily and rapidly are details apprehended and appropriated. A living perennial principle, deeply rooted in man's nature and history, takes a far more vigorous grasp of the facts of a language than any mere grammatical rule can. But ethnology despises no philological aid. Every method of analysis, however artificial, may have its occasional usefulness for her. Every word has its history, extending often over thousands of years, and whoever presents the ethnologist with an account of the actual changes which a single word has undergone in its passage through time, deserves his gratitude as much as the palæontologist deserves that of the geological explorer for whose benefit he illustrates the history of a single fossil fish. If letters are "the ships of time," so were words before alphabets were invented, and where they do not exist. Each of them brings some facts from the unwritten ages of the past, and what they have gained or lost is often of as much value as what they have retained. No human records are so venerable and so interesting as words which

have come down to us from primeval times, when the forefathers of the Hungarian the Fin and the Turk of Europe and the remote islanders of the Pacific were members of a yet unbroken tribe in the middle of Asia, and the Indian and the Englishmen had not yet sprung from their common progenitors in Persia.

The enquiries with which we wish to occupy the minds of our readers for a short time, like other genuine sciences consisting in observation without experiment, demand nothing more than the application of a little patient attention and common sense. If the latter had been more trusted to, we should not find in cultivated minds and works of authority such notions as that of language being supernatural in its origin, or the opposite one of early languages resembling the babbling of children, or of the Chinese having no grammatical structure. The growth of language is just as little and as much supernatural as the growth of hair on a man's head, and it can no more exist without structure than a horse or a watch.

1. In a previous paper we explained the system of classification and the mode of orthography, which we have adopted in our comparative vocabularies of the languages of the Indian Archipelago, and, incidentally to the last, made a partial analysis of the organic characters and relations of the vocal sounds. This was necessary as an introduction to every portion of our subject. In proceeding to enter upon it, we have had much doubt as to the best mode of doing so. To postpone touching on any branch until our researches are complete, would be to postpone it altogether, because we can see no limit to these researches. The field expands, and must continue to expand, the longer we look upon it. To undertake the complete elucidation of any portion of the subject would, for a similar reason, be a vain attempt. If a science of languages existed in Europe it would be easy to apply it to the hitherto undescribed, or imperfectly described, languages of the Archipelago. But we have nothing yet save fragmentary contributions, and we are not even warranted in assuming a familiarity with these on the part of our readers. Our contributions therefore must partake far more of the nature of enquiries than of results, must combine references to the nature of language generally with the facts of the particular languages under investigation, must abound in suggestions and hypotheses, and, in a word, exhibit all the characteristics of a growing knowledge. Such indeed are the characteristics of even the profoundest writers on similar subjects, and they must remain until a wide range of languages have been thoroughly analysed and compared, and mental science itself has been cultivated with especial reference to its deep and complex relations to speech. *

* *Note on the requirements and difficulties of a science of language as a branch of Ethnology.* Let us look a little closer on the requirements and conditions of a science of language, and the peculiar obstacles which oppose its progress. They are in many respects the same as those which distinguish the science of mind from that of matter. But there is only one method for all sciences, or rather there is but one science and many kinds of phenomena. Time and space give infinity to the facts and relations which the mind conceives. Nature being one, nothing of it is insulated. The number of phenomena which can be apprehended discretively being to vast as far to surpass the apprehensive power of any mind, and each being related to the whole so intimately that we can never do more than partially comprehend it, no abstract principle can express the whole truth. It can only express a more or less profound and pregnant relationship, simple or complex; it is never truth absolutely but has only truth in connection with numberless unknown relations. The

Defects of the common grammatical analysis. Language at once a property and a product of the mind, and to be cultivated as a branch of mental science.

2. It would be expedient perhaps to follow up the explanation of our method of classification and orthography for the elements

absolute form of the expression should not be transferred to nature. It only means that the individual mind conceives nature under a certain aspect, has perhaps gained a new instrument for seeing into her. But still as a whole she must remain unseen by man, and all his philosophy continue to be a groping in the infinite. The only science is observation. The relational ideas of the mind serve, 1st, to conceive of a number of phenomena under one aspect or in relation to one common property, and thus lead to general expressions of facts, 2nd, to anticipate facts and so suggest and direct observations. It results from the unity of nature, and from the mind and all the rest of nature existing in God, and being, so to speak, pervaded and made one in and by the divine force, that every phenomenon observed in nature, every relation under which it can be conceived, no sooner enters the mind than it ceases to represent merely the particular phenomenon and its relations, and becomes a property of the mind, an instrument unlimited in its associations and applications. Every mode, force and relation of matter is no sooner strongly apprehended than it becomes a new mental power, reflecting fresh light on old notions, and extending itself to ideas of every kind which pass before the mind and are arrested by its attention. When the first seer of a newly apprehended relation gives it a name which truly describes it, this name becomes a great power in universal science. Such names place other minds at once in possession of the power. This is finely exhibited in numerous instances in our own day of high scientific fertility. When we see how a newly perceived relation in any science, that is any direction of observation, when distinctly announced and sent forth with an apt name, arrests attention and is received with eagerness by all whose minds are directed to the same subject, we may form some conception of the vast labours of mind which have gone to the production of language as a whole; for every cultivated language contains many thousands of such words, and this discovery of relations, and rendering them immortal by words, must have been in full activity during the lapse of time which preceded history, and of which language is the only monument. It is one however composed of such numerous materials, so variously built up, and with each architectural principle that successively predominated so strongly marked, that, when thoroughly analysed, the general mental progress of the race will be clearly described. This is the end which philology as applied to ethnology proposes. We are far enough from it yet. The exclusive cultivator of the exact sciences is apt to think that where everything seems so inconstant and protean, nothing but human caprice reigns, and that the very word science must be a misnomer. Some such feeling appears to have opposed for a time the admission of ethnology amongst the sciences cultivated by the British Association. The science of the constant is the law of the constancy, which enables us to foretell events positively. The science of the mutable is the law of the change, which enables us to understand and connect the past, and to foretell events as possible or probable under given circumstances. The discoveries and speculations of the great German philologists are not yet the science of ethnological philology. All languages must be observed, described and compared, and the affinities amongst them are so many and so great that this is not a task of overwhelming magnitude. At present the mere terminology is so defective that it is hardly possible to work with it. Constantly recurring paraphrastic expressions impede and even tend to confuse the mind. Its direct glances at truth become dim when translated into descriptive phraseology. Fresh ideas that are leading to deeper truths are dragged back to the trammels of old conventionalities of thought by the old circumlocutions. There is a stage in every science when the mind tends to advance in some direction out of its linguistic habits, and cannot clearly speak itself, cannot proceed farther, until it has fitted itself with new ones in which no old idea, with its cloud of associations, lurks.

The description of all existing languages is not enough for a complete ethnology. The records of the past are necessary to understand the present, and these are mostly gone, so that the science cannot be perfected. Neither can the future with its history of changes be anticipated. Ethnology will go on developing itself to the end of time. The elements of the science are still wanting. *Why* and *how* the differences in disposition, temperament, taste, intellect, &c. ?

of speech, by settling a method of analysis and comparison for languages themselves. But it is hardly possible, in the present state of philology as a general science, to determine what would be the best method, and we prefer the liberty of availing ourselves from time to time of any that may seem well adapted for our purpose. The common grammatical mode, although it supplies us with many useful terms, and is an effective application of one kind of analysis to language, is founded on an extremely narrow conception of the subject. It is also positively vicious to a certain extent, inasmuch as it separates that which in nature knows no separation. It views words too much in an artificial isolated state, it obscures the perception of the living force and relations of the various members of a sentence, and, above all, it divorces the science of speech from that of the mind. We believe that this disunion of what in nature are so intimately connected, has had a pernicious influence on both sciences, rendering the one dry and artificial, and the other needlessly abstract and difficult. The clear sense of the living whole has been sacrificed to an insulating analysis. It is by the reunion of both, by never forgetting that language is but the mind imaging itself objectively, and that the mind itself is developed in and by language, that we may hope to get nearer the ultimate truths involved in each. In this way we believe the question of the origin of language will find its own solution. We do not decry attempts to penetrate this mystery by a shorter method, because all hypotheses suggested by an observation of mental phenomena, are useful in giving directions to enquiry. But the solution can never become a scientific fact until it results from a profound study of language, not as something external, but as a property of the mind. We observed before* that "every language contains within itself the evidence of its own immediate origin and progress; and it can hardly admit of a doubt that when the same minute, patient and reflective analysis that have constructed a science such as chemistry, botany or zoology, are applied to

What and why the physical relations of these mental peculiarities? Ethnology is absolutely progressive. Its very basis is the observation of progress and development. The basis of the physical sciences is the observation of the present. If that could be well and thoroughly observed these sciences would be complete. The foundation of the philosophy of ethnology is a true conception of man, not as he is at present, not even as he exists individually, although that knowledge must be presupposed, but as a Race. The idea of Race, and of all individuals and generations being subordinated to it, living not or themselves only or so much, but for the ends of the Race, has not yet grown to its full dimensions, and indeed is only dawning on the most civilised nations. It contains a world of truths and corrections of errors for us. A large proportion of our mistakes and sufferings—errors in feeling, in practice, in philosophy and in religion,—are attributable to the exclusive importance we give to the living individual, and the present generation. We must learn to view the individual in relation to the Race before we can understand his nature, his history, and the full purpose of his existence. Nothing tends so powerfully to bring out the idea of Race, to subordinate the individual to it, and make him see in his own life but a part of a great whole, as an earnest and scientific study of language.

* *Introductory Remarks to a series of contributions to the Ethnology of the Indian Archipelago. Journ. Ind. Arch. Vol. I p. 171.*

language by numerous labourers as they already are by a few, the power of reading that evidence will be acquired." We anticipate with perfect confidence that what we thus ventured to say with reference to the immediate origin of particular tongues, will be found applicable to speech generally. When this analysis has been extended to all the families of language, and a general philological science has grown out of a comparison of the results, the origin of language will stand clearly explained by it.*

* *Note on the Origin, Development and Character of Primitive Language.* We are glad to see that Chevalier Bunsen, in his splendid lecture delivered to the British Association, has eloquently and ably resisted the notion that language is not a necessary and spontaneous property of the human mind. An opposite notion is inconsistent with all observation, and can only result from preconceptions that oppose the light of nature. Referring to the observations which we made on the subject in an early number of this Journal (Vol. I p. 173), we need only add here that the idea of language having ever been innate appears to us to be philosophically absurd. It is inconsistent with human nature, and our first progenitors must be assumed to have been human. All observation and analogy shew that language is a spontaneous and natural growth. It began with mere animal cries and imitations of natural sounds. This is not inconsistent with a just view of God's providence. If he is still content to let so-called savages and children exist, why should he not have begun with human minds equally undeveloped. It is impossible that there can be any records of the infancy of the race save in language itself, and a subtle and deep reaching analysis may yet detect full proofs of this primitive era in it. The oldest or supposed oldest book, Genesis, shews clearly, by abundant internal evidence, that it was written in a late age of human history. The whole people in the world known to the race who produced it (I speak of it merely in its human aspect) had become civilized. The idea of savage man had been lost. Its notions of life, in all essentials, do not differ from those of the most civilized community of the present day. It is impossible to believe that man ever existed in a state of extreme deficiency of ideas. The language of the first pair must have been very extensive. It could not but contain an expression for all the essentials of human experience, feeling and thought. There is more in common than the reverse between the primeval man and the most developed of his descendants at the present day.

Independently of all this, it may be demonstrated that language was not intuitive or instinctive. Instincts are constant. But language is the reverse. Volition, wishing, anticipation, recollection, imagination, sympathy, &c., are the parents of language. How could there be language without ideas? If all ideas were innate then were they instinctive, which is absurd. All ideas are human discoveries, for which names are invented by the discoverer in order to communicate them to others. How could language have preceded experience? If words were intuitive, knowledge must have been so also---a knowledge co-extensive with its vocal expression. And where and why limited? And was this miraculous endowment---this endowment totally irreconcilable with the whole nature and constitution of man---this absolutely divine nature---confined to the first pair? If so, how was language in its fullness learned and preserved, anterior to experience, by their children? The hypothesis of an intuitive language combines the worst elements of a bad philosophy. It is not only absurd but unnecessary, because observation proves that man, in all times and places, has the faculty of speech, and is irresistibly impelled to employ it in forming a language. Man is a speaker by his very nature.

The difficulty of forming a true conception of primary language consists in the difficulty of going out of the artificial mode of existence, and the historical modes of thought and speech, in which we are trained, and imagining the human mind bare of experience, and receiving as wonderful discoveries what are now so familiar as to be hardly regarded at all. Give the physical powers and propensities of the man to the child, and the conditions of the primary human life are before us. Can we not trace the progress of such a child-man? What are the principles of such a development? The will would more rapidly mature than the intellect, because propensities are already present from the beginning and would soon perfect themselves in act, i. e. the circle of all the kinds of act answering to, and reacting on, these propensities, would soon be traversed. Mental and bodily sensations are few

Phonology.

3. The most important part of the science, is one which hardly finds a place or a name in ordinary grammars, and which has never been systematically cultivated by any philologists, although many of the discoveries of the greatest amongst them are based upon it. The discrimination of the different vocal sounds; their accurate analysis, organic and phonetic; their mutual affinities and repulsions and the modifications which these undergo according to the number of sounds combined and the mode of combination; the laws of contraction, amplification, generation, eclipsis, symphony &c.; the relations of the different kinds of phonetic characteristics, in virtue of which some coexist, while others are wanting, in the same language or varieties of a language,—all this is so essential to the science of language, that hardly any progress can be made, beyond the most common grammatical analysis and etymology, without meeting with some question that carries us back to the first principles of phonology. We cannot compare two languages of the Archipelago, nor even attempt an analysis of any one in itself, without feeling, at almost every step, the want of this knowledge. So essential do we find it, that all the rest of the science appears of comparatively subordinate importance, and we are almost tempted to say, as the result of our own limited experience, that, in the comparative philology of the Malayan languages, everything beyond the mere surface is comprised in their phonology.*

in kind. The relish of food, for instance, teaches its lesson rapidly, and admits of slight addition. But the education of the intellect is observation, and man's organism and nature herself combine to make this an exceedingly slow and gradual process. Bunsen says that the languages of savages are degraded, decaying fragments of nobler formations. This cannot be universally or even generally true. There can be no existing language more rude and imperfect than the noblest must have been in its first origin. Languages may remain in, or relapse into, a state little removed from the primary one, but it is impossible they can become more simple. The savage fixed in his range of ideas, and gaining nothing new from experience, must still be much more rich in ideas and words than man could have been in the primary era of human existence. The tone and temper of the mind constitute the difference. The first men, placed in a genial region, probably advanced rapidly and progressively, but they must have remained for many ages with hardly any arts, and their whole habits and knowledge must have been exceedingly simple. Art, energy, intellectual cultivation could not arise till population accumulated in particular localities. The word savage however is far too indefinite to be used with any approach to accuracy on these subjects. The conditions in which communities reduced to a fixed state, or a state which at any given period presents no marked progression, are exceedingly various. Even amongst the more barbarous the variety is very great. Still in every region, the very lowest existing type of humanity, unless kept artificially by oppression in a state of extreme degradation, must be in advance of what was the condition of the first men, if placed in the same or a similar region.

* *Note on the Imitative Origin and Early Musical Character of the Sounds of Speech. Change from Monosyllabic to Polysyllabic.* One of the few things we are inclined to take exception to in Chevalier Bunsen's speculations on the primary history of language, is his rejection of the hypothesis that it was imitative in its origin. We think that all observation shews that it must have been in its inception purely imitative. Language, as a full expression of the mind of the first men, must have been preceded by the discovery of the power and varieties of articulation, and this must have been derived from the imitative or formative tendency of the human mind, to which its development in every direction

Structure of Words.

4. Immediately connected with the phonetic laws, and in great measure regulated by them, is the Structure of Words, embracing the expansion of monosyllabic into dissyllabic Words by the

is owing. Man imitates and images God, or has the impulse and the power of imitative creation. Whatever God creates man wonders at and tries to imitate as far as his formative faculties and processes will allow. By memory, imagination and language he can image and reproduce images or pictures of all God's works. By acting mechanically on the physical properties of matter he can imitate some, first by his voice, second by his hands. Now this inward force, further excited by sympathy and a craving for the pleasure that attends the exercise of every human energy, would lead him to imitate all natural sounds, and every person would try to do the same, or imitate his companion. Thus the mind would gradually become familiar with the powers, and the will with the use, of the voice. Sounds therefore would be the first things which received names. An easy step from this, if not identical with it, would be to apply the name of the sound to that of the object producing it. The first vocabulary would be extremely varied and strong in its sounds. Many would be very harsh, while all would be intoned like the natural sounds which they copied.

Those objects only which directly affected man would be at first attended to and receive names. Soundless objects would, for a time, only be indicated by gestures, or by pointing to them when present. The effects produced by such objects on the person, or the uses to which they were put might furnish sounds. A leaf, for instance, might be named from the sound it made in falling, or in being crushed, or in being cracked, or eating it. A sound attending the application of heat to any thing used by man, or, before the discovery of fire, a sound associated with the dawn of day, might be applied at once to heat, day, the sun; so with night, the moon, darkness. We do not attempt to guess at the actual analogies that were used. We only say that from sounds directly proceeding from objects, whether naturally or by man's agency, a very considerable number of imitative names might be obtained, and that association would extend these almost indefinitely to soundless objects having relations of place, time, form, colour or any other attribute to those capable of sound. Things would long be viewed in the lump. Resemblances would mass many objects together under one name. Except in things strongly interesting to man there must be a narrow vocabulary in the dawn of language. There would be no nice discrimination of differences. A tree would have the name of a leaf or fruit. All that was useful or striking would be named, and in things which directly affected man's primary wants and appetites, a great importance would be given to differences which civilized man considers trifling, and the language would reflect this peculiarity of early life. The servile adherence to natural sounds would not last long. The delight in the exercise of the faculty of speech, and the genial spirit and energy of youth, would soon lead to the spontaneous and sportive exercise of the articulating habit, and from the ample magazine of sounds thus discovered every object soundless in itself, but of interest to man, would receive a name.

This hypothesis is contrary to that which makes all languages, or any language, primitively monosyllabic. To us it appears that a purely monosyllabic language must be highly artificial. It does not admit of that relation of the sound to the object which we consider essential to language in the first stage of its development. There are many polysyllabic natural sounds, or sounds which can only be imitated polysyllabically by the voice. A familiar instance is the mewing of the cat, which gives a name to the animal in many languages.

But most sounds in nature are single in tone, and in their imitation require but one breathing, so that the sympathy of the mind with the general character of the language, or the sense of musical harmony awakening and operating on the sounds of the language, might lead to the contraction of polysyllabic names. This however would be an eminently artificial process, for in it man would seek to subject nature to his own idea of fitness, instead of following his early impulse and habit of taking her as she is. A long subsequent process would restore and extend polysyllabic words from a new and still more artificial view of the linguistic elements, one which could only begin to operate after the sense of the spontaneous origin of language and its direct relation to nature had been lost.

generation or accession of new sounds, and the phonetical phenomena which attend the juxtaposition of different words, including the conjunction and composition of primitives into derivatives, flexions, prefixes, postfixes and infixes. All this belongs to the elements

According to this view, languages vocalic and monosyllabic in their roots, are eminently artificial. The harsh and polysyllabic sounds of nature have been gradually thrown off. The languages of South-eastern Asia are therefore artificial, but they abound in strongly nasal terminal sounds, and the numerous varieties of difficultly articulated vowel sounds which they preserve, concur with the musical or singing intonation, in evincing that they became fixed in their phonology at a very early era. The Polynesian languages have rejected these, and are therefore in so far even more artificial. The indolent and soft temperament that has been superinduced in the insular races has been the cause of this effeminacy of speech, and in one sense this relation between the articulation and the idiocracy is natural. But even to such a temperament nature could never teach a purely vocalic and monosyllabic language. Whatever the physical constitution of a race, and whatever the region in which it is placed, the sounds of nature blend the harsh with the soft, the compound with the simple, and every tongue which has the characteristics of the Polynesian must be artificial and comparatively modern. All the Malay-Polynesian languages however preserve far more of the original musical element than the European.

We shall return hereafter to the phonetic relation of the dissyllabic to the monosyllabic languages of south eastern Asia. They present at the first view an extreme contrast, and it might seem absurd to suppose that the one could have grown out of the other. We believe however that the loss of articulative energy and singing intonation in the insular races, owing probably to their separation from the continental communities, is the one simple *primary* cause of the whole transformation. A strong effort is required to preserve the difficult vocalic sounds of the Burmah-Chinese languages, and to prevent the monosyllables becoming dissyllables. The effort indeed is one and the same. The strong vocalic tones, emphasise and insulate each syllable. Whenever this is weakened the after-breathing, hitherto bound down by the effort to produce the strong vowel tone, naturally starts into vocal existence. Monosyllables become dissyllables, real phonetic unions of words become possible, and the loss of the tonic vigour renders many phonetic variations and substitutions necessary to supply the place of the words which differed only in the tone.

In our previous paper we indicated several of the channels by which vocalic sounds are changed into each other. We find that there is still another kind of classification required to explain the transmutations which letters undergo in some of the Archipelagic dialects. This may be termed a purely vocal classification, since it disregards the organic divisions and considers merely the effort required to vocalise each letter. The same principle has been applied to the different organic classes in themselves, in the distinction of surd and sonant. This we would extend to the whole alphabet, placing the least sonant letter first and the most sonant last and arranging the others between them according to the degree of their *sonance*. The dentals are the least sonant and the labials apparently the most. All the transmutations which Malayu words receive in the mouth of the Bugis appear to be of a more sonant for a less sonant---thus k for t, ñg for n and m, d for t, g for k, w for b &c.

It thus appears that there are two directions in which each vocal sound may undergo change. 1st, in mere aspiration, according to the strength and character of the breathing employed. Hence the change of surd to sonant and vice versa. 2nd, in articulation, according to the effort required to modulate the breathing. The change of k into g is one of the first kind. The change of t into k is of the latter kind.

The relations of the vowels to the consonants also demand investigation. Final vowels more easily pass into certain consonants than others. I have not ascertained the law of these consonantal prolongations of vowels, but at present I believe the classification of the vowels in my scheme of orthography indicates their relationship to the consonants. The i is allied to the gutturals, the o and u to the labials. These are the obvious organic relationships, but there are others, more difficult of determination, depending on auricular or euphonic causes.

The various euphonic phenomena also require to be described and their laws

and mechanism of words, and runs through the whole language, supplying the means by which the mind finds expression for every idea simple or complex.

ascertained. Those consisting in mere echo, or repetitions of sounds, and the alteration of one sound for harmonic accommodation to another, present no difficulty. But the various kinds of euphony of this class should be collected. The contrast of sounds is as common a source of euphony as their agreement, and here there is more room for investigation in ascertaining the various natural kinds of euphonic opposition and those which particular languages affect. It will probably be found that euphonic habits have a certain natural relationship, so that the prevalence of a particular kind implies the presence of some allied to it, and the absence of others opposed to it.

A peculiar euphonic tendency of very considerable ethnological importance is that of inverted syllables. It is sometimes exhibited voluntarily in our own speech, often in the first efforts to acquire the pronunciation of the words of a language differently articulated from that of the imitator, and amongst some races it is purposely adopted either for concealment or amusement. The Malays use it for the latter purposes under the name of *bhasa bali* (literally reversed speech). But the knowledge of it, although the trick is simple enough, is by no means universal or even common. *Poko* becomes *kopo*, *opok* &c. This natural tendency is often exhibited in the passage of a word through different dialects, and it must therefore be born in mind in etymological investigations. Where not accidental, it evidently arises from the delight in preserving identity with apparent change. It may be termed an inverted echo.

Changes of Sounds. No systematic attempt has yet been made to ascertain under what natural laws sounds are expanded and changed, nor has it even been noticed, so far as I am aware, how much of this depends upon the natural operation of the respiration. This goes on continually, and every vocal articulation is a violent interruption and suspension of the respiration. Every consonant is accompanied by an involuntary respiratory breathing, and even after every vowel there is a breathing in the return of the organs to their state of repose and preceding the recommencement of the natural breathing. Now this whispered or involuntary syllable, by a strengthening of the vocalization becomes vocal also, and I have little doubt that this natural process, accompanying or immediately following the decay of the tones, was a principal agent in converting the monosyllabic into the dissyllabic languages of eastern Asia. A peculiarity in the articulation of an individual might originate dissyllabic words. This peculiarity is now one of race amongst the Polynesian nations. They cannot pronounce a consonant without rendering the succeeding breathing vocal. In other words they have no pure consonants, all are vocalic. In the Malayan races the same indolence of articulation prevails to a large extent. Thus English and other foreign words which end in a consonant have the involuntary after-breathing vocalised. The vocalic tendency appears to be the effect of a relaxed articulative energy. To produce a coalition of pure consonants, and to restrain the natural tendency to vocalise the after-breathing of final consonants, requires a certain effort, and languages to which this effort is habitual, indicate the possession of a considerable degree of mental energy. A more indolent organism, a decay of nervous force, attends the vocalic tendency. The phonetic degeneration of Sanskrit to Bengali, Latin to Italian and Spanish, Western to S. Eastern Malayan are analogous facts resulting from similar causes. The vocalic habit of the monosyllabic races stands on a somewhat different footing. Many of their vowels are very far from being pure vocalic breathings. On the contrary they require an articulation approaching closely on the consonantal, accompanied by a very constrained breathing and a strong intonation. They are in fact inchoate consonants rather than pure vowels. If they were proper vowels the language could not exist in a monosyllabic form. It would be difficult to pronounce that these peculiar sounds are not original and natural, but it is very clear that their preservation, and the loss of all proper terminal consonants, has been owing to a strongly developed taste for this kind of euphony, which has resisted the natural tendency to completely articulated consonants. We shall see in a subsequent paper that it is only in the highly cultivated Chinese dialects that this euphonic predilection has been fully maintained.

Much of the imperfection of our phonetic notions arises, I am convinced, from the influence of the alphabet. We come to regard consonants as having an independent existence in nature as well as vowels. In fact there are no such sounds in

*Ideology**

5. If we now pass from the sensible or material to the ideal aspects of language, we find the ordinary grammatical analysis quite inadequate to explain the phenomena presented by the Malayan languages. We may retain its method so far as it goes, depriving it of much of its pretensions, and we may adopt its nomenclature with some modifications, but we shall find ourselves compelled to take a broader and more natural view of language as a basis for the description and analysis of the Malayan. The deficiencies of the common grammatical system appear to us to be mainly attributable to the influence which the study of dead languages has exercised on the minds of philologists. A highly cultivated language which exists only in books, has necessarily a mechanical aspect, and its analysis partakes of a similar character.† But for the classical direction of linguistic studies, it can hardly be doubted that the inductive philosophy, which has long produced such brilliant results in other sciences, would have completely remodelled that of language in England. As it is, we are only now beginning slowly and with some reluctance, to receive the impulse and direction which Germany, throwing off the trammels of ancient methods, has recently given to philology.

6. In the present preliminary suggestions we must be understood to have purely oral languages mainly in view. Many new considerations must be introduced when the influence of an alphabet begins to be felt. We shall advert to this part of the subject when, in a future paper, we investigate the alphabets of the Archipelago and the peculiarities referable to their prevalence, on a comparison of

nature. Every consonant is merely a particular mode of interrupting the breathing, and is therefore triplex. There is the initial breathing, the sound produced by the violent obstruction, and the terminal breathing when the obstruction is removed. The last is involuntary, and respiratory. If every breathing that goes to the production of a consonant be vocalised it becomes a dissyllable. Thus *b* is *aba*, *k* is *aka* &c. The passage of vowels into consonants, or the production of intermediate sounds, demands elucidation. The sudden checking of the breathing in a vowel produces a kind of inchoate consonant, which most naturally approximates to guttural, because in every stoppage of the breath the inner vocal organs must act. When at the same time the higher organs modify the shape of the oral cavity, but without causing the full consonantal obstructions, inchoate or consonantal vowels are produced.

* This word, which in its special linguistic application, we adopt from Mr Duponceau, may be defined to be the science of the structure of sentences, embracing the methods which different languages adopt to connect and modify words for the expression of ideas in actual speech. We would however extend it so as to include the ideology of the separate words and of the vocabulary as a whole, that is the relation of words to the mental character and habits of the race. This is obviously distinguishable from Etymology. When etymology has traced a word to its first form, the questions still await us, what was its precise meaning in the language of its birth, under what linguistic necessity did it originate, and what were its relations to the national modes of thought and character?

† Even the study of a living language when mainly based on its elaborate developments in writing, and in speech under the influence of tastes and habits produced by literature, tends somewhat to obscure the perception of language in its essential and primitive oral form. The less the mind is influenced by written compositions, the more direct and accurate will be our notions of the Malayan languages.

the few written with the numerous unwritten tongues of this region.

7. To describe any language we must view it in relation to man generally and to the particular race to which it belongs. We must first consider what the objects are which every language must accomplish, and next the different degrees and modes in which these objects are accomplished in different classes, before we can appreciate the character of the particular tongue which may form the subject of our investigations. Theoretically and absolutely speaking, we may say that language is the complete expression of human nature fully developed;* but the kinds and degrees of human development are and have been very various, and language must vary accordingly. Moreover no language gives full expression to the minds of any race, and least of all to those in the lower ethnic stages. If we say, as we must, that every language accomplishes its object, we must explain that object to be the expression of the people who speak it in all things which they deem worthy of expression. Subject to these qualifications, we may say that every language is a reflection of the mind. Its contents and methods are those of the mind. It contains, reflected or represented by names, the physical and mental substances and acts which are ideally represented in the mind, in their separate identity and in their connections and relations. It reflects in like manner the perceptions, emotions, volitions and ratiocinations of the mind itself. Whatever method and classification are true and natural for the phenomena of the mind must be so also for philology, and every other must be defective or artificial. Whatever ultimate principles metaphysics and its allied sciences can discover in the natural history of the mind, the same will prove ultimate principles in the natural history of language.†

* *Note on the metamorphic power inherent in speech, from its being a property and not merely a possession of the mind.* The definition in the text is ideal. Language thus complete might be exhibited by means of writing, but it could never exist as a possession and instrument of any one mind. To every individual mind some large portion of it would be dead. There is a two-fold aspect of language which we may notice here lest it should be thought we overlooked it. It is at once a possession and a property or faculty; a possession in so far as it is acquired from without and laid up in the memory, a property in that its whole use is dependent on the power and constitution of our own mind. The same property of mind which enables us to use a language acquired from others would necessarily be adequate, and lead, to the production of language if none already existed. The faculty of speaking is the faculty of inventing speech. Indeed with all men of the least vigour and productiveness of mind, with all men whatever to a certain extent, speaking is a speech inventing. It is the exercise of the same faculty which created language originally. Speech depending on such a faculty, it follows that every living language is in a constant state of change. Every original and imaginative mind of any power gives an impetus to this change, within the reach of its own influence. There is no such thing as a fixed living language. The process of creation has been going on since the beginning of the race, continues still, and will continue till the race and the language are extinct. There is a perpetual growth, decay and reproduction. Wherever there is most growth there is most decay. Writing for long periods preserves fading and obsolete words and powers of words, so that a reaction of mind towards the past can bring them to life again. In the slower and wider ideological progression, the hand of time cannot be thus put back.

† Hence philology is a test of the soundness of metaphysical speculations. We

Necessity for a natural history of minds.

8. But as every individual and every national mind has its peculiar characteristics which are reflected in its language, the science of mind must also descend from its high generalizations, and become an humble observer of idiocrasies before it can go hand in hand with philology in developing the science of races. There must be a comparative natural history of minds as well as a comparative natural history of languages.* The abstractions of ordinary

have already said that mind and language have a mutually caused development,--there being them a perpetual action and re-action,---and that both must be embraced in one study. The highest analysis of language partakes of the abstractness of the highest analysis of metaphysics, but they at the same time open a constant passage into the concrete or make the real run parallel with the confine and correct ideal.

* "So then the first article of this knowledge is to set down sound and true distributions, and descriptions of the several characters and tempers of men's natures and dispositions, especially having regard to those differences which are most radical, in being the fountains and causes of the rest, or most frequent in concurrence or commixture; wherein it is not the handling of a few of them in passage, the better to describe the mediocrities of virtues, that can satisfy this intention: for if it deserve to be considered, 'that there are minds which are proportioned to great matters, and others to small,' which Aristotle handleth or ought to have handled by the name of magnanimity; doth it not deserve as well to be considered, 'that there are minds proportioned to intend many matters, and others to few?' So that some can divide themselves, others can perchance do exactly well, but it must be but in few things at once; and so there cometh to be a narrowness of mind, as well as a pusillanimity. And again, 'that some minds are proportioned to that which may be dispatched at once, or within a short return of time; others to that which begins afar off, and is to be won with length of pursuit.'

Jam tum tenditque foveatque.

So that there may be fitly said to be a longanimity, which is commonly also ascribed to God as a magnanimity. So farther deserved it to be considered by Aristotle, 'that there is a disposition in conversation, supposing it in things which do in no sort touch or concern a man's self, to soothe and please; and a disposition contrary to contradict and cross: and deserveth it not much better to be considered, 'that there is a disposition, not in conversation or talk, but in matter of more serious nature, and supposing it still in things merely indifferent, to take pleasure in the good of another, and a disposition contrariwise, to take distaste at the good of another?' which is that property which we call good-nature or ill-nature, benignity or malignity. And therefore, I cannot sufficiently marvel, that this part of knowledge, touching the several characters of natures and dispositions, should be omitted both in morality and policy, considering it is of so great ministry and suppeditation to them both. A man shall find in the traditions of astrology some pretty and apt divisions of men's natures, according to the predominances of the planets; lovers of quiet, lovers of action, lovers of victory, lovers of honour, lovers of pleasure, lovers of arts, lovers of change, and so forth. A man shall find in the wisest sort of these relations, which the Italians make touching conclaves, the natures of the several cardinals handsomely and lively painted forth; a man shall meet with, in every day's conference, the denominations of sensitive, dry, formal, real, humorous, certain, 'uomo di prima impressione, uomo di ultima impressione,' and the like: and yet, nevertheless, this kind of observations wandereth in words, but is not fixed in inquiry. For the distinctions are found, many of them, but we conclude no precepts upon them: wherein our fault is the greater, because both history, poesy, and daily experience, are as goodly fields where these observations grow; whereof we make a few poesies to hold in our hands, but no man bringeth them to the confectionary, that receipts might be made of them for the use of life.

Of much like kind are those impressions of nature, which are imposed upon the mind by the sex, by the age, by the religion, by health and sickness, by beauty and deformity, and the like, which are inherent, and not extern; and again those which are caused by extern fortune: as sovereignty, nobility, obscure birth, riches, want, magistracy, privateness, prosperity, adversity, constant fortune, variable fortune,

grammar and metaphysics are useful as means, but they cannot lead to important ends in themselves, and they are positively pernicious if they induce the mistaken notion that they contain the science of language and mind, a science which can only grow out of a patient observation of differences in mental constitution. Human nature in the abstract can never be the foundation of a genuine science. Men and nations are not to be measured by ideal standards; instead of dogmatising a priori, we must build up a knowledge of the developments of the human mind from the observation of individual temperaments and qualities. We should make much more rapid progress if we could teach ourselves, in such enquiries, to view the mind as dispassionately as we view the other phenomena of nature, to look upon mental power, while wedded to the body, as a property of the human organism, and dependent for all its peculiarities on that organism, as the fruit is for its comparative shape, size, flavour and other qualities on the tree from which it hangs.

Synthetic and Analytic minds and languages.

9. We can merely indicate the direction in which we think linguistic researches should be pursued, and the general bearing of the views which will guide our own enquiries. To attempt any accurate descriptions of idiocrasies would be a work of much difficulty, and at least demand a paper for itself. To illustrate our meaning, we may notice one very obvious distinction between different minds and races. In some we see a delight in facts as they present themselves. In others an indisposition to take things as they seem to be, and a constant tendency to penetrate into hidden connections and causes. The perfection of the one quality requires much impressibility, and a genuine relish for and willing repose upon particulars. The perfection of the other quality requires a strong analytical and logical faculty. The highest order of minds unite both the synthetic and analytic

rising *per saltum, per gradus*, and the like. And therefore we see that Plautus maketh it a wonder to see an old man beneficent, 'benignitas hujus ut adolescentuli est.' St. Paul concludeth, that severity of discipline was to be used to the Cretans, 'Increpa eos dure,' upon the disposition of their country, 'Cretenses semper mendaces, malæ bestię, ventres pigri.' Sallust noteth, that it is usual with kings to desire contradictories; 'Sed plerumque regiæ voluntates, ut vehementes sunt, sic mobiles, sæpeque ipsæ sibi adversæ.' Tacitus observeth how rarely raising of the fortune mendeth the disposition, 'Solus Vespasianus mutatus in melius.' Pindarus maketh an observation, that great and sudden fortune for the most part defeateth men, 'Qui magnam felicitatem concoquere non possunt.' So the Psalm sheweth it is more easy to keep a measure in the enjoying of fortune, than in the increase of fortune; 'Divitiæ si affluant, nolite cor apponere.' These observations and the like, I deny not but are touched a little by Aristotle, as in passage, in his Rhetorics, and are handled in some scattered discourses; but they were never incorporated into moral philosophy, to which they do essentially appertain; as the knowledge of the diversity of grounds and moulds doth to agriculture, and the knowledge of the diversity of complexions and constitutions doth to the physician; except we mean to follow the indiscretion of empirics, which minister the same medicines to all patients."—BACON (Adv. of Learn.)

powers. A glance at any language shews which of these idiosyncrasies has predominated in its formation, and this simple and obvious classification of minds furnishes one very valuable means of comparing languages, and one which we shall have frequent occasion to apply.* We need hardly observe that this, and all those other differences which distinguish man from man and race from race are in degree only, for all minds and languages exhibit the same faculties and tendencies. All language is based on comparison and analysis, since the very condition of its existence is the referring of particulars to generals. Where the analytical faculty is strong, the isolated naming of particulars is sooner limited, because all new ones that present many analogies to previously named species are referred to them, with or without some qualitative indicative of their peculiarities.

The mode in which the mind adapts language to the infinite number and variety of natural phenomena.

10. The distinct subjects of language being exceedingly and indefinitely numerous, it must be capable of an equally great and unlimited power of variation. How is this accomplished? Each object might be represented by a distinct sound. Every individual thing to which a man was consciously related might have a name. Now although man is capable of being conscious of the vast and ceaseless variety of individuals which nature presents, he is only capable of an elective attraction to a very small proportion of them. The impression made by the remainder is necessarily evanescent.† Take an object having a vast number of individuals, such as a tree clothed with branches, leaves and fruit. We may fix our observation on a particular leaf or fruit so as to apprehend it in its individual dimensions, shape, colour, motion and other qualities, but we cannot repeat the process for every other leaf or fruit. When objects are thus numerous, or their differences require a minute observation which we have no motive to bestow, the mind does not distinctly apprehend them as individuals, but as multiples of one or more individuals. The foliage of a tree is one leaf or a few leaves repeated.‡ Hence notions and names become specific instead of individual.§ As the differences become

* It enters to a certain extent into Du Ponceau's classification of languages as asyntactic, analytic, synthetic, polysynthetic and mixed. The first name is a misnomer, for the Chinese is a peculiarly syntactic language.

† In fact when a strong elective attraction takes place, the very consciousness is suspended. Of the other things present we are insensible.

‡ The mind receives the full impression of one or more leaves, detects no striking differences in the others, and transfers the impression to them all, but there has really been an elective attraction to the few. In proportion as observation of differences requires attention, it becomes less attractive. Nature warns us off from an unprofitable waste of action. But when these minute differences, from a new development and direction of the mind, become scientifically important, they become at the same time more easily observed.

§ The process necessarily applied to things numerous, nearly identical in their appearance, and presenting themselves as parts of a whole, is also extended to

more striking and easily appreciable the elective attraction is more active. The leaf of one species of tree is distinct from that of another species, and each becomes the object of an elective attraction. Each species of leaf therefore might receive a separate name, and so might each kind of fruit and bud.

There are two modes in which the mind, in its linguistic development, might operate on objects consisting of many distinguishable parts. It might limit its first apprehensions to those parts that were most nearly related to it through their uses to man,—to the edible fruit of one tree, to the leaf of another*,—or it might apprehend these objects in their entirety without a close discrimination of their parts. In probably acted in both ways. Whatever was directly connected with man's wants had the highest importance, and whether it was a whole or a part, received a distinct name. Whatever strongly excited his feelings and attracted his regard would also be symbolised by sound. Beyond this, discrimination would be feeble, and only the whole receive a name. Different genera of minds would act differently. The highly impressible and imaginative would exercise a finer discrimination, and frame a more copious vocabulary, while that of the more gross and animal would not go far beyond the pale of sensual wants and appetites. In every region, whatever affects man personally must be the first subject of language. When that fundamental vocabulary has been framed, it marks that the accommodation of himself to the region has been accomplished. The arts necessary for subsistence and protection have grown into habits, and his mind is free to embrace

objects not so obviously related. There is evidence that the first tendency of language is to name individuals, and in different languages this tendency is sometimes long preserved in certain directions. But with the great proportion of the objects which make up the external world, individuals of the same species are very numerous. The operation of time also indefinitely multiplies them. Whenever this is the case specific names must be used. Human discrimination and memory, nay human life itself, are inadequate to the invention of a language of proper names. Such a language indeed while apparently perfect would only be fit for the intercourse of a first human pair, or of those whose whole observation was in common. It could only belong to a small society and a particular limited locality. If substances are not susceptible of individual nomenclature, volitions and actions, being infinite in their possible number and constantly originating, are still less so. Every language almost from its origin, must tend rapidly to become specific, and find itself compelled to individualise by gestures and exclamations indicative of position (the parents of articles and demonstratives) or by abstraction is not a developed faculty. It is an in- of all active perception and conception. The mind ca does not present objects insulated. Both within and without she pours masses of ideas upon us. But the mind, save when its activity is suspended or deranged, neither reposes on these, nor is overwhelmed by them. It immediately feels an attraction to some part of the whole, abstracts it from the mass, and devours its peculiarities with a greedy appetite. The brain can image a whole landscape, but the attention is soon drawn to some particular features in accordance with the elective tendencies of the individual, and the rest becomes indistinct. Hence abstraction is natural and even voluntary, and a faculty so spontaneous in its operations, and so familiar to the mind, must from the first almost, become an instrument of the volition.

* In Malayu some trees are still named from the fruit and others from the leaf; and in these cases we may conclude that the fruit only or the leaf only was originally named.

nature for her own sake. If the locality were unfavorable, demanding a strong and severe exertion of the faculties to maintain existence, his mind would, in its apprenticeship to the region, become permanently contracted during the many ages that must elapse before man multiplies so greatly as to conquer the obstacles of nature to a free life. On the other hand, if the region were favorable to mind and body, temperate, and not too sterile, he might, from the first, be open to the intellectual and imaginative influences of nature in all their varied power and beauty.*

11. The objects with which man's necessities draw him into close relations are different in every geographical region. At one place the sea and its inhabitants occupy an important place in his life; at another the natural forest, cultures of different kinds, herds, or manufactures. Language varies accordingly, here growing in one direction, there in another. As civilization advances, the directions of external action become more and more divided in the same region, and even in the separate communities which exist in it. Hence in civilized countries the same town or district often shews an expansion of language in several directions. In each, individual objects are more minutely discriminated than before, and new objects are constantly arising, so that from the trunk of the common national language many separate branches proceed. The language as a whole becomes copious and minute, but it is outgrowing the necessities of individuals. It is thus that in one civilized country all the phenomena of a wide geographical region of uncivilized communities may be observed. In the latter every race has a great stock of spoken ideas in common, while each has made an excursion of its own into places which still remain blanks for the languages of the others.

It thus appears that the national idiocracy, in the first instance; secondly, the physical peculiarities of countries; and, lastly, the stage of ethnic developement, depending partly on these and partly on the influences of foreign peoples, are the causes of the comparative richness or poverty of languages in particular directions.†

12. It is obvious that in any direction in which the national mind strongly tended, man might go on inventing an entirely unconnected word for each new object of his linguistic action, and this has taken place in most languages to a considerable extent. But this process has been arrested or greatly restrained in all languages, 1st, by the rude habit of not discriminating minutely things beyond

* In the interior of the Malay Peninsula I was much struck with the relation of the more powerful wild beasts to man. They keep him in fear and check his developement in the infancy of the nation, and are instrumental in filling him with superstitious dread.

† Where the pursuits and methods are the same, the spoken ideas will approximate. Hence in distant countries and in different stages of civilization, resemblances in this respect may be traced. Have the like causes every where produced like effects? In some things a copiousness of nomenclature long ago used by the savage of the east is now found necessary for the man of science in Europe.

human wants, but seizing on broad resemblances, 2nd, by the delight in tracing resemblances and analogies which the early linguist passed over, and of associating things by these.

In the kinds of analogies that have been used for this purpose great differences are observable. Some languages in this respect evince good sense, and a true subordination of the less to the greater. In others a rudeness and imperfection of judgment, a childish sacrifice of order and method to fanciful and trivial analogies may be traced. Here indeed every national idiocrasy has depicted itself with a minuteness, a copiousness and a fidelity which no amount of personal observation of the people could enable us to imitate. Here they have unconsciously described themselves, and preserved a perfect intellectual history of the early ages of their development. This view of language requires to be systematically developed, as it is of the utmost importance for ethnology.

A classification of the kinds of association that have operated in the production of any language must be founded on a complete analysis of it.* All sensible properties and qualities, and every

* *The Importance of Lexicographical Classification* is so great that we are tempted to add a few remarks in addition to those which we made before.

The lexicographical part of philology, i. e. the ascertaining of the precise meaning of each word, is one of great labour and some difficulty, but it is absolutely necessary as the basis of comparative philology. It also opens up a wide and new field for philosophical enquiry. When minute shades of difference in the application of words, used as the substitutes of each other in two languages, are observed, the question arises, is there any connection in these deviations, any ethnic peculiarity to which they can be referred? This shews the necessity of considering every word, objectively--and abstractly. It must be observed in all its external relations, and limits. Its alliances, and range of conversion must be clearly defined. Thus all words may be referred to certain definite genera, species and varieties. Analytic classification cannot be applied in any direction without yielding results beyond the immediate object or anticipation of the analyst. Language has not yet been classified. The foundation is a good psychological method. We should begin with our own language. The perfection of this labour would be that every word would to a great extent be defined by its place in the system. The difficulties, to which we formerly alluded, are greater than those attending the classification of organised natural objects, because from the beginning of every language the vivacity of the mind is constantly breaking down the barriers between words, and widening, narrowing or variously modifying their significations. Every variety of analogy and association that takes possession of the mind becomes a plastic power capable of effecting changes in words. New ideal elements are introduced and old ones withdrawn. All this tends to render language exceedingly complicated and irregular in its growth, subtle in its functions and erratic in its wanderings. One word by a new element let into it may glance towards many different ideas. Still at any given time, and particularly where there is an alphabet and literature, a language is a definite though highly complex phenomenon, and not above the analysing and classifying powers of the mind.

The notions which different races form of the same objects, physical and mental, the degrees and kinds of abstraction, the particular phasis to which a word answers, the power which a word has of accommodating itself to various limitations, expansions and relations of an idea, render it impossible that all words in one language should be exact representatives of those in another applicable to the same objects. When a race differs much in its development and habits from our own, its lexicology increases in difficulty for us. Every student of Malayu knows how insufficient many of Marsden's definitions are, and that, even with the aid of his pioneering, a large amount of reading and reflection is often required to get a satisfactory knowledge of a single word. The most delicate mental analysis, and the realization of

specific natural combination of them, may be used as associative principles or foundations of genera. The mind both in its intransitive and transitive action, by subordinating nature to its own powers and desires, becomes a new centre of associations, drawing into union objects which in themselves have only remote relations. Here again we must remark that all languages, like all minds, have far more in common than the reverse, and that many orders of minds have operated in the formation of every language. We are not therefore to look for an artificial adherence throughout to certain exclusive kinds of association. In this, as in all other aspects of the subject, we see the playful spirit and weak faculties of childhood and the patience and strength of maturity, folly and wisdom, tendencies of the most opposite kinds, working together. When we consider that no single mind works always in a perfectly scientific and methodical manner, but is active, vigorous and clear sighted at one time, and at another comparatively inert and confused—ruled now by one predominating tendency, impulse or view, and again by a different,—how much less are we to expect uniformity in a language. We must be prepared to find that in its developement and growth many principles which could not easily co-operate synchronously, have each had its dominant period. Each has, for a time, become a nucleus around which new words have been formed, and old materials re-arranged and modified. If amongst these we can discover any which has operated more widely and for a longer period than others, thus proving itself to be related to a lasting national idiocracy, this result of our analysis leads us at once to the most valuable ethnological comparisons and conclusions.*

combinations and abstractions, which are not familiar to our own minds and our own language, frequently become necessary. Here also we see how intimate the connection is between linguistic and mental science.

In the preceding remarks we may see a sufficient justification of our making the Malayu the basis of our comparative vocabularies in preference to English. The words of the other languages of the Archipelago more commonly find perfect synonymes or close analogues in it than in the nearest corresponding English words.

* A completely artificial or so called philosophical language, that is one expressing the knowledge of a particular time by regular and uniform methods, would first classify ideas under orders, genera, species, varieties, &c. Having done so it might appropriate to each, one definite arrangement of sounds, so that the sounds contained in the name of a thing would, to a large extent, define it. In order to this, sounds would require to be combined into words upon a predetermined system. Monosyllables might serve one purpose, and different modifications might be expressed by, 1st vowels, 2nd consonantal vowels *ab, ac*, 3rd vocalized consonants *ba ca* 4th by 2 and 3 combined *bac*; under each of these, subdivisions might be made depending on the order of the sounds. This monosyllabic basis might be enlarged to any required extent by introducing tones. Each successive addition of a syllable might have its determinate force. The combination of syllables and connection of words can obviously be carried to an extent far beyond the requirements or capacity of any language. We introduce these remarks to shew how much natural languages fall short of uniformity, and not to approve of the attempts that have been made to form a universal or philosophical language. We do not think such a language would be adapted to the natural action of the mind, and that it would soon be broken up.

Ideology of Speech.

13. Hitherto we have spoken only of the naming of things, including substances, qualities, motions, &c. But the naming of things is merely incidental to the object of language, which is the expression to others of our observations, thoughts or volitions. This to a certain limited extent may be done by mere names, aided by tone and gesture. It is not to be supposed that man began by inventing names to amuse himself. He began doubtless by expressing his wants and desires in relation to them. Words like perceptions would embrace the object perceived, whether a whole or a part, in all the entirety of its existence. What we now distinguish as substance, quality, action or force would be perceived and named as one. Primary words were not parts of speech but speeches. A people with a strong synthetic and weak analytic tendency might long be satisfied with a language in this simple state. But the action of the abstractive and analytic faculties would lead to an objective perception of the more obvious relations between the different phenomena, mental and material. The recognition of force as something very distinct from mere passive matter, would give rise to a sense of the relation between the agent and the thing acted on, between the subject and the attribute, and the mind, strongly apprehending it, would soon find a mode of impressing it on the language. Like powers have produced like phenomena in all times. Where causes are perennial so are effects. Therefore if we only know respecting the remotest place or time that human beings lived, we know also that a language existed in all essentials like our own.*

* Every nation possessed of the analytic faculty, and all have it in some degree, must have exercised it from the first. There was no time therefore when science did not exist. Language is the earliest of all sciences, and there are very few languages which do not prove that in the remote primary ages of the race, the scientific faculty was highly excited. The whole intellectual activity of man, observation, imagination, comparison and discrimination, were expended upon it. In it every successive discovery was embodied. It is the first phasis of science, or the reaction of the mind on nature viewed objectively. Then, as now, the men of greatest mental vigour and capacity were the great discoverers. Every language as a whole is highly metaphorical. It is full of all kinds of associations. Common words and phrases, which have now received an abstract character, or a wide range of applicability, were, at first, limited to single concrete notions. Every extension beyond this was at first an embodiment of original imagination, wit or wisdom. A novel association or induction which once flashes upon the brain and is bodied forth in words does not die. Enshrined in the winged speech in which it was born into the language, it flies from mouth to mouth, exciting wonder and pleasure in every mind where it alights to give its impress and perhaps to generate new ideas and new speech, it survives the brain in whose vitality it took its form, and becomes built into the language. Believing that this is one of the universal facts of ethnology, believing also that, with infinite diversities in power, nature reproduces the same specific kinds of human organism, bodily and mental, in all races and all generations, we must conclude that the genius of nameless thousands is embalmed in the language of every existing tribe. Every original mind that works through the forms which it finds, and moulds them into shapes not beyond the tendencies and sympathies of its age and nation, leaves some of its discoveries in the language, and thus enters into the life of the race in all future time. For of minds thus original and practical no idea wears out, and no word becomes obsolete, till the truth that was in it has become transfused into some other form or modification of form. There is change of form, diffusion of meaning and power, till all has oozed

14. Every speech must contain, fully expressed or partly implied, an assertion of being in a passive or active state. It may further contain an assertion of modes and relations of being either single or multiple. Now this idea of existence is necessarily inherent in all things and consequently in all names of things, and it is not necessary to express it separately. Some languages have invented separate words for abstract existence, and where they are used throughout, the names of things themselves acquire a certain degree of abstractness not natural to them. A lower degree of abstraction is the distinctive conception of the modes and qualities of existence. Different kinds of attributes may be variously distinguished in different languages, or all confounded in one genus. Most have consciously distinguished attributes devoid of force, such as colour, size, &c., from those consisting in an exertion of force. Most have also distinguished between force as a mere intransitive attribute, and force exerted objectively. Then again the physical relations of being and action to time, place and force, and the mental to the desires, volitions, logical and moral judgments, must be all expressed with more or less distinctness and completeness. The more highly cultivated the national mind, the wider become the demands upon language. The more complex and numerous the connections and relations which the mind can keep before it and subject to its logical power, the more complex and powerful has language become. Yet even this is but a difference in degree. The English mind cannot express itself fully in Malayn, and the most literate Malayn cannot grasp the complex and involved structure of sentences which every educated Englishman can follow with ease, but all the ends of language* are accomplished by the one tongue as well as by the other. The main difference is less in the structure of the language than in the respective logical powers and intellectual habits and culture of the two races. The complex English sentence may be resolved into the same simple elements and combinations which constitute the Malay one.

15. There are various modes in which languages may accomplish the above objects, thus common to all. A considerable variety have been actually adopted, and many more are conceivable as possible. It may be assumed however that all the most practical have already come into use, and that others are not adopted because they have been tried and rejected. During the many ages in which human races had no other abstract science to cultivate but that of language, an infinite number of linguistic experiments must have been made.

out of the old vehicle and it is cast aside, but the living idea once brought into the open day of language, from the dark regions of infinity into which the human mind is continually and unconsciously drawn, never dies.

We must note however that the great multitude of thoughts run to waste, that an idea may be too far in advance of the time and place where it is uttered to root itself in other minds, and may need the aid of letters, those "ships of time" that bear the living ideas unharmed across great gulphs of national barbarity, in which they would otherwise have perished.

* i. e. language as we have defined its object, *ante* § 7.

Of the known modes used in the world at the present day, most languages exhibit some traces, while the proportions in which different modes are availed of, and the degree of development which each has received, vary greatly in different languages, and become one great means of ascertaining alliances and community of origin.

Loss by words of the concrete character. Convertibility.

16. We have seen that all words are originally concrete, that is they represent objects as they exist in nature antecedent to the action of the analytic faculty upon them. The first step in all languages is to deprive words of this concrete character, a step which must be taken in the primary stage, since it necessarily results from the conscious perception of attributes, which again originates in the comparison of objects agreeing in some attributes and differing in others. If no new word be added to distinguish the object as a mere substance, as possessed of qualities, and as the subject or object of action, it must, in losing its purely concrete character, become convertible into a representative of each of these ideas. It is only when a word has ceased to be concrete and either acquired the property of thus changing its meaning with the point of view from which we regard it, or been permanently restricted to one of the abstractions into which the original meaning has been decomposed, that it becomes fitted for a developed language. In the latter case a new expression must be adopted for the other abstractions. If this be an isolated and independent word like the primary one, the language still retains its original characteristic as to its elements, but in its form and method as a whole it has widely diverged from the purely convertible languages. If every abstraction could be independently represented we would have a language with an excessively cumbersome vocabulary, but one needing no aid which the vocabulary did not furnish. Where the original concretes have simply become convertible, some other means are needed to effect the conversion. This may be supplied by collocation. Where tone is availed of, the word itself is in reality changed, for the slightest variation in any phonetical element of a word, if purposely and constantly used to express a variation of meaning, constitutes a new word as much as if every element were entirely replaced by others. Where convertibility and collocation aided by tone are not adopted or exclusively relied on, and the invention of new insulated words is not carried far, as it seldom is, generic and specific words expressive of relations may be introduced to indicate the modifications under which the same word is used. These relational words may remain separate from the words which they modify and aid, or they may gradually become united to them. The concreterionary process thus recommenced upon the language itself, may be restrained within very narrow bounds, or may be carried to a great extent, one in fact only limited by the sentence itself. In the result the same sentence may in different languages,

preserve primary concretes dependent on collocation for their abstraction and the expression of their relations, or may in addition call in the aid of gesture, or may fully express every shade of meaning and relation by distinct substantive words, or may do so by modifying the concretes and indicating relations either through means of generic particles separate or united to the principal terms, or through means of merely phonetical changes in the principal words, whether of tones or letters; it may be a complete analysis of the ideas involved, manifesting each link of a proposition in the fullness of its separate significance as it is perceived by the most discriminating mind, while yet presenting it as an integral part of one chain of expression; or it may be composed of abstractions that have been again recomposed into concretes, and this recombination may be carried so far that the abstractions which enter into it cease to be fully significant; finally it, may leave many of the connections involved, to be suggested and supplied by the mind of the listener.

17. We have said that every speech contains an assertion of existence in repose or in action. The shortest speech—it may be a single monosyllable—does so. By the tone it may affirm, recognize, interrogate, call, command, desire, warn, threaten, upbraid, insult, intreat, express endearment, hatred, approval, blame, doubt, surprise &c. In other words, most of the simple transitive volitions and emotions, or the relations of objects to the mind, may be expressed by tones. Beyond this, uniradical speeches cannot proceed. To express one idea as the attributive of another, we may use a separate independent word; or determine the concrete to an attributival form, or change the substantive into an attributive by position* or periphrasis, or by formative words separate, united or combined, or by subjecting the word itself to an internal change of tone or of sound. By the same means the substantival and active forms may be given to words.

Subject or agent, action and object. Mechanical and physiological combinations. Secondary concretes.

18. If we consider a sentence as a whole as involving a subject or agent, an action, and (where transitive) an object, each of these must be distinguished from the others, and this may be done by any of the modes already mentioned. The most obvious and also the most common, probably the original, is by relative position. The force or motion (whether mental or physical) begins in the subject and proceeds from it to the object in all transitive excitements of force. Naturally therefore the subject would take the first place, the force in action the second, and the object the third. The subject may be single or complex. It may be univocal in expression and yet compound in idea. Where the combination of ideas involved possesses no uniradical representative, or primary concrete, several

* It may be doubted however whether position, when a substitute for relational words, particles and inflections, works any change in the notion attached to the concrete word itself.

words must be used, and some means must be adopted to shew that they are connected so as to form one subject. This may be done with the linguistic energy of the mind in full action and operating through the most plastic and powerful of its methods, or with the lowest possible activity and by the most weak and superficial of its methods. The latter, which we may term the mechanical, is exceedingly simple, although it has its varieties and degrees. The connection may be signified by merely placing the words together; or, these still remaining entirely untouched, it may be indicated by a separate conjunctive word. The connection may not be simply that of approximation or addition, but any of the kinds possible in nature. The connective may be laden with any of those meanings. The mechanical principle in its highest activity may effect an actual junction, either leaving the connected words entire and untouched, or wedging or locking one into the other, or lopping off portions and joining them together into a whole, which will be so far different from the parts in their integrity. This however is more often the result of an exertion of the higher, or what we may term the physiological methods. In these we see the linguistic energy still necessarily availing itself of mechanical processes, but no longer treating words as something entirely external and independent of it; we see it returning, in some degree, to the exercise of its primary generative relation to them, entering into them and working from within under the consciousness of this creative and metamorphic power. The relations of connection may, under the influence of this physiological power, be breathed into the words either while holding them entirely separate in place, or in bringing them simultaneously into a union more or less intimate. The operation may consist in a purely phonetic metamorphosis of one or more of the simple sounds of the words,* in an augmentation or contraction in quantity, in the generation of additional sound, or in combinations of these. Any part of any of the connected words may be thus affected, for every affection, whether extensive and complicated or so simple and slight as to be just sensible, will serve the end of expression. A single contraction, growth or transfor-

* Some races appear in the primary age of their language (i. e. that in which the roots were produced and the earliest ideological forms developed) to have had a more accurate and full perception of the phonetic elements from which language is composed than others. In this primary age some families discovered that each consonantal sound undergoes the same number and kind of vocalic changes or each vowel the same consonantal changes, and others that each sound is susceptible of the same number of tones; the number of vowels and tones known depending probably primarily on the physiological peculiarities of the race and physical characteristics of the country, and secondarily on the direction which the vocal imitative power takes under these external and internal influences. This discovery, taking possession of the mind of the race, and leading to a development of the language under a full consciousness of it, must produce a far wider prevalence of regular phonetic and tonic conversions, than can take place in languages formed under a less scientific perception of the vowels and tones. It seems hardly possible however that there can be any study and classification of vocal sounds until it is made for the purpose of expressing them in writing.

mation in one of the words may, by a reflection of the all embracing sensibility and dominion of the mind upon the language, be distinctly felt on the connected words and throughout the longest and most complex combination of ideas. When, under its own slow concretionary action words are at once united and phonetically changed, the mind,—losing, by the reaction of the effect on the cause, the mechanical aid of the individuality of words in retaining a full discrimination of the individuality of ideas,—can no longer restore at will the original force of the component parts. The gradual blending of the conceptions both induces and follows the blending of the words. The sense of their separate signification becomes dimmer and is ultimately lost, and the composite word, ceasing to be recognized as such, becomes what may be termed a secondary concrete.*

* *Note on Crudes, Aggregates, Concretes and Inflections.* 1. So long as the full signification of the component radicals is preserved, these compounds, whatever the amount of phonetical composition and metamorphosis and however closely related or combined in the mind the allied ideas may be, remain as much words of two or more notions as if they were merely converted by juxtaposition. It is only when the sense of their separate significance fades away, and the verbal dissection of the complex idea ceases to be perceived, so that the composite word becomes unnotion-like each of its original parts, that the term secondary concrete is fully applicable. The mind operates on ideas allied and brought together, with an action like that of chemical forces; the ideas tend to combine. Language keeps them mechanically separated. The mental power is the stronger; it gradually transfuses the combined notion into the connected words until they become unities.

2. The nature of the connected ideas determines in a considerable measure, the extent to which this concretionary tendency can operate on the words. If these ideas are in themselves sensible and strongly individualised, they resist this action. In proportion as they are generic and abstract, they submit themselves more willingly to it. Words significative of sensible objects are the least fusible; those of sensible qualities the next. Auxiliary, relational words, which have no self-subsistence, and can only be insulated and made objective by a highly abstract effort of the mind, tend most easily to combine with the words whose relations they indicate. There are many degrees of abstractness amongst these purely relational words, some being nearly sensible, as all must have been in the infancy of language. The comparative range of application of relational words also influences the tendency to combine. This tendency will soonest operate on those which have the greatest range, as for instance the relation of attribution, particularly the species indicative of possession and resemblance; that of transitivity; cause and effect; and others of this class that occur in almost every speech.

3. It may be remarked here that so long as words continue to be used separately as well as in combination, the combinations will not become true concretes. But when a word ceases to run at large, and is only met with conjoined to others, the sense of its primary individual significance may soon be lost. Again, particles which never occur save as prefixes and postfixes, and are therefore of all others most liable to have their meaning diffused in that of the principal word, may yet resist the greatest phonetic submergence short of entire absorption, if they are not restricted in their application. This is one peculiarity which distinguishes Malayu formative particles from those of the Indo-European languages. For instance the significance of the prefix *me*, *mem*, *men* is not lost even in such words as *manjet* (for *memanjet*, the euphonic junction of the particle and *panjet*) because the prefix is of universal application as an indicator of transitive action, and may be used or not as the speaker chooses. It is probable also that prefixes retain their separate identity better than postfixes, which more readily tend to sink into mere syllabic prolongations of the body of the word. The latter by preceding overshadows them. By reversing the order the relational particle takes a certain, however transient, hold upon the attention before the principal word occupies it. The Latin words *columbam*, *columbarium*, *columbarius*, *columbalus*; *anguis*,

If the antithetical use of the words concrete and abstract were less established, we should prefer the former being restricted to these composites, as its application to primitive words is not consistent with its proper etymological meaning. There is a difficulty however in finding a distinctive term for these words. Assuming as I do that from the nature of the mind the earliest words are speeches

anguicomus, anguifer, anguigena, anguimanns, anguipedes; present examples of varieties in ideological composition. The first only is an instance of complete, synthetical union. In the inflectional languages the coalition of the particles with the principal words must have preceded the application of writing. The tendency of *speech* in English is to give even the preplaced relational words a phonetic union with the principal words. If a person who did not understand the language were to write down sentences as he heard them spoken, this tendency would become very apparent.

4. There is some confusion, either in idea or language, with respect to inflection, otherwise we should not find Bopp (Comp. Gram. I. 99 Eng. Trans.) justly impugning F. von Schlegel's definition of the relational differences between the Sanskrit and Semitic families, and Gallatin (Trans. Am. Eth. Soc. II. cxliii, v.) confessing himself unable fully to understand W. von Humboldt's distinction between agglutination and inflection, and refusing to admit that many of the American Indian languages have not inflections of the same character as those of the Greek and Latin. It is generally admitted that most of the syllables which constitute inflections in the Iranian family were originally separate words—i. e. words independent in form, position and signification. It has been proved that many were so. It is also certain that the loss of this independence must have been by slow and insensible degrees, and that the inflectional roots existed as particles prefixed or postfixed before the change was consummated. Taking the Comp. Grammar of Bopp and the philological reports read at the meeting of the British Association, in 1847 as indicating the present prevailing conceptions of the distinctive characteristics of inflections and particles prefixed or postfixed, we may assume that this distinction consists in the former being annexed roots which, considered separately, have now no signification, while the latter are roots which, considered separately, retain their signification. Bopp with A. W. von Schlegel, considers the main distinction of languages to be into the unorganic and organic; the unorganic consisting of unconbinable monosyllables and forming the 1st class; and the organic comprising the 2nd and 3rd classes, the 2nd having also monosyllabic roots but with the power of combination, through which they chiefly obtain their organism and grammar, and the 3rd having roots which are dissyllabic and triconsonantal, and obtaining their organism and grammar chiefly by the modification of the internal vowels. So that some of the distinctions that have been so much insisted on by Humboldt are passed over as comparatively unimportant. In accordance with these distinctions the 2nd class would be subdivided into (a) those in which the relational roots retained their independence in form and significance; (b) those in which they retained their independent significance with a change of form produced by the annexation (agglutination); and (c) those in which the independence in form and significance is lost (inflection).

5. In Bunsen's admirable discourse (Rep. Brit. As. 1847) the change of integral isolated words to mere particles of relation (either retaining an independence of position or juxtaposed without any alteration or contraction of sound, accent, quantity or tone), and the change of these particles into inflections, is frequently referred to as a phenomenon of the highest importance in the development of languages. But there is a middle stage which requires to be distinctly recognized, because we think Humboldt's views of the Malayo-Polynesian languages as explained by Dr. Prichard are otherwise apt to mislead. In this stage particles have lost their independence in position and in meaning, but retain their phonetic independence either entire or with some change of form. This they do in most cases from the principal word continuing to be used by itself when the particular relation does not require to be indicated, and even dispensing with the particle when the relation can be otherwise indicated or implied. Of the subsequent or last stage when the component roots of a derivative word lose their phonetic independence, and the speaker is not conscious of their being anything but an integral part of the word as much as any primitive or radical syllable, analysis will discover nu-

or self assertive concretes, we might name them primitives, if this word had not acquired a more generic meaning. The most appropriate term is perhaps crudes, that is words representing the first crude or unanalysed notions which the mind forms of external

merous instances in these languages. Some have been already ascertained, and many more must soon be detected, for I cannot conceive that any language which has thrown off the monosyllabic letters can long exist without a strong tendency to the formation of secondary concretes.

6. The difference between Bopp and Humboldt, and all the difficulties connected with the notions of inflection, have probably arisen from not distinguishing or keeping in mind the two aspects of language which we insisted on in a previous part of this paper. As a mere possession of the ^{something} external, and its analysis is mechanical. ^{is ranked} together. Viewed as a property or function of the mind under other considerations arise. We look primarily to the mental state in which the speech originates in determining the character of words. Language then presents a succession of mental habits, each of which modifies it. The original concrete or crude ideas and words are followed by generic or abstract ones. Language preserves the dissections and abstractions made by the logical energy of the mind. But the involuntary action of the mind remains present and powerful as ever. It never ceases to operate. It presents ideas in their natural concreteness, and thus constantly opposes the logical tendency. When this tendency loses its first vigour, the abstract generic words, no longer sustained or inflated by it, gradually lose their independence. The natural or involuntary ideas themselves regain their full influence. The most generic of the abstractions may then become united to the names of things and actions, so as no longer to suggest any distinct and separate idea. The ideas originally breathed into them and which for a time were forcibly sealed up in them by a strong logical power, are attracted and absorbed by the principal words, and as they ooze out of the generic ones the latter collapse and, adhering to the former, become an integral part of them. The two ideas are unitised and so are the words. But what is the nature of the idea formed by this union? It is not analogous to a primary concrete. It remains abstract because its elements were both abstract. It is a concretion of two abstracts. Thus take the substantival abstract, *a snake*. Here the analytic faculty ignores the motion and power as well as the inert properties of the snake, all which would enter into the word if used in its original concrete form, and all which do actually exist in the mind latent or rushing on its consciousness and tending to overpower the analytic abstraction. Conceive this substantive in relation to an event as its cause. "A mouse was killed *by a snake*." Here the word *by* represents one of the most universal abstractions that can be formed by the analytic faculty, that of transitive power in operation, the relation of one thing to another as cause. If the analytic energy be not directed to this idea separately, do not rest on the *by*, but the ideas *by a snake* be made one, we get the notion of the snake as an instrument, and as nothing else more or less. Everything else contained in the original impression derived from nature is ignored. The mind dwells upon this conception of the animal alone. The more frequently the attention is drawn to it, the more easily does it arise, till by habit it becomes a fixed notion like that of any natural substantive idea, and arises as spontaneously as that of the snake itself. Now if the *by* were post-placed instead of pre-placed, so as to allow the principal word *snake* to fall on the ear first, the *by* would not oppose the growth of this unitised fixed notion. It would coalesce with the principal word and become phonetically united to it. So long as the mind retains any distinct consciousness of the *by* as something separate, the notion has not become fixed, the synthetic composition is not complete. When the last lingering vestige of the independent phonetic or ideologic existence of the *by* has passed away from the national mind, it has become a true inflection.

7. Such relational concretes differ from all other secondary concretes ideologically, although the phonetic process of composition is the same. The concretion of two substantive words always is or resembles a return to the primary concretes. Thus if the words *black* and *horse* were so thoroughly united that the independent meaning of the former was lost, the word would be equivalent to a primary concrete involving both the animal and its colour. But relational concretes are a still greater departure from primary concretes, and not a return to them. The ideas of *snake* and *by* are less abstract or at least more simple than that of *colubro*, which is a real composite abstraction. It is obvious that the preservation of such an abstraction

things, but this term is also sometimes specially applied to the formative base or theme of inflected words. The most expressive name, and one free from the theories involved in both of the previous terms, would be *pleninomes* or *pleonymes* (full names), i. e. words

must require a union of strong analytic and synthetic power, a union which no race is likely to retain permanently in full vigour. Without this, the idea itself must become dim in the constant presence of the living fullness and concrete substantiality of the ideas derived from nature. And if the analytic tendency again predominate, the mind will require an independent representative of the generic idea of *by*.

The extreme importance of acquiring a true and full notion of these distinctions in order to understand the character of the Malayan languages, and some peculiarities of the time-inflections depending on our conception of them and requiring advertence to a principle of much power both in mind and language, will be our apology for dwelling a little longer on this subject.

8. Let us consider what are the facts distinctly observable in the phenomenon of speech. I assume the presence of ideas in the mind and the possession of the faculty of speech. The first fact is the suggestion of the volition to communicate to another certain of these ideas. Thus we have the sensation of hunger and the desire to eat, a mental state of which the apprehension is of the simplest and directest kind. The least reflective and analytic or most natural mode of communicating the fact would be to utter the name of the sensation "hunger." The utterance of this is accompanied by the intention of raising the idea of our being hungry in the mind of the listener. Therefore however rapid and concrete the speech may be, the mind for the moment distinctly conceives the sensation as a possession or attribute of itself, because it is under this connection that it wills to convey the idea to the listener. This attributive intention would be impressed on the tone. This speech analytically expressed is "I am hungry," a form of speech in which the fundamental idea is the same, but in which the mind dwells for an instant on two facts not essential to the expression of the volition. 1st, the speaker conceives of himself objectively as one of several persons, 2nd he conceives of the sensation as existing at the present time. The mind therefore views itself and its sensation relatively to other minds and times. The principal idea itself has become abstract or separable from that of the person, because experience has brought the knowledge that it is common to all men. The mind has acquired the habit of looking to phenomena in their connections. It has become more intellectual and abstract in its notions and habits. But the very circumstance of its having become a habit has already rendered the analysis and comparison faint. The succession of ideas in the mind goes on the same as at first. Volitions are as rapid and direct as ever. The old concrete idea remains, and communicates its character to the words. But even in the earliest analytic stage, where each term of the analytic expression was distinctively attended to, the connection was entirely an act of the mind, that is it was not directly named, however clearly indicated. The first form may be called crude or original speech, the second scientific speech resulting from observation, or a philosophical view of things under their different natural relations. Each relation or connection is distinguished from others by a direct or indirect exclusion of them by the speech.

9. Let us now take the speech "I did love." "I formerly love had" "I formerly time love" "I past love"--analytic forms which actually occur in different languages,--and contrast them with the forms "I loved" and "amabam." Here we may allow that the terminal letter of the loved and the terminal syllable of *amabam* are, in the mechanical view of language, postfixed particles, the *d* and *ba* signifying past, and the *m* representing the pronoun of the first person. Nevertheless in the mind they have ceased to have any independent ideal prototypes. The race can no longer see them as separate, nor can they explain or define them. What then is their operation if they have lost the character of words? They simply suggest a particular state of mind. The idea of the past has ceased to be distinctively called up as a separate idea. But the words which have passed into the *d* and *ba* having been constantly associated with that idea, the feeling of the past, the sense of remoteness from the *I* of the present moment, continues to be suggested. Ideas of time have reference to the person. The present is felt as near, as directly connected with us; the past as distant, and unconnected with us; the future as distant also but connected with us by anticipation, apprehension, curiosity &c. The ideas

not restricted to particular forms or parts of speech, amorphous words. Any of these terms seems preferable to concrete, and we shall at all events use the latter for those composites produced by a concretionary process, prefixing the qualitative primary when we apply it to primitive words.

of the different times when separately conceived are attended with distinctive feelings having this relation to self. Now the temporal inflections do not fix the attention on the idea itself directly and fully, but, by the ancient association, the feelings we have alluded to arise almost unconsciously in the mind. There is no direct apprehension of the idea of time by an effort of the will. The idea of the action does not first arise, and then one of the time when; but the suffix syllable or letter, having become indissolubly connected in the mind with the sense of remoteness, it instantaneously and spontaneously suggests it. It rises with the idea of the action, interferred into it. Or we may say it forms the momentary medium of the mind through which the idea of the action is seen. This involuntary suggestion of states of mind takes places to a great extent in language. In reading or listening many words do not suggest the substantive ideas which they represent. The ideas rise in the mind in concrete unity, and many of the linguistic steps rather harmonise with than awaken the state of mind. Their absence would however be instantaneously felt, and our ideas be thrown into confusion. The abstract ideas run parallel with the chain of words employed to excite them and give them a specific direction. The difference between this phenomenon and that attending the use of inflected words is simply that in the former case the attention of the mind may be arrested by the words so as to allow of a full substantive conception of the idea, while in the latter the inflection, having no individuality, never can so arrest the attention. Hence if we desire to do so we must drop the inflection and introduce an independent word—"I did love", "I will love."

10. The difficulty attending the attempts that have been made to classify languages consists in their refusal to accommodate themselves to any kind of absolute, artificial or narrow principle of classification. If we could safely assume that every language was originally monosyllabic as well as concrete, this would afford a point from which to start. It would not be difficult, however laborious, to classify the different kinds and directions of departure, phonetic and ideologic, from this point; and that accomplished, each language would be definable according to the number of these changes which it included, the extent to which each prevailed, and the combinations of which they were susceptible. These definitions would at once direct us to a natural classification of the languages. All that have hitherto been made are necessarily imperfect, and will require to be modified as our knowledge extends. Granting that some families have characteristics which are peculiar to them, it is not the mere fact of such characteristics, but the comparative extent to which they pervade such languages, that is of chief importance. Characteristics which they possess in common with some other languages may exercise a wider or more weighty power.

11. Whatever systems may be adopted the distinction between grammatical modifications produced by merely phonetic changes (whether in monosyllables or polysyllables, whether by internal change or external addition) and those produced by addition, in whatever fashion made, of foreign words, in an entire or mutilated state, should be carefully kept in view in all mechanical analyses of words. It is proper that every modification should be considered to belong to the former which cannot be shewn to be fundamentally a combination. When that has been done it should no longer be considered as a mere inflection, but as a postfix or prefix. In this we only differ from F. von Schlegel's application of the term inflection in not confining it to those kinds of internal modification which distinguish the Semitic languages. The term has been too long applied to the classical inflections (although under the erroneous notion that they were mere inflections and not foreign elements) to be easily restricted now, and if it cannot be done, some other term ought to be adopted to express a distinction of so essential a kind.

12. The development of inflectional languages must present the following stages
A. *Ideologic* (1). All words are crude, simple, directly representing substances as they appear in nature, and thus rendering description unnecessary. (2) *Abstract* or generic words are added; substances are now represented formatively or periphrastically. (3). The abstract words indicative of the most universal connections are joined to the principal ones and agglomerates are formed. In the same

Complex speech. Reflection of the national intellect by sentences.

18. The subject may consist of a pure or abstract substantive *, with

way specific words are compounded. (4). The distinctive or separate sense of the generic words is lost. This takes place with isolated words also. It is the grand agent of the perpetual change of language. (5). For the lost meaning or parts of meaning new and more direct words come into use, B. *Phonetic*. A change in the phonetic habit or taste of the race may cooperate with the incessant and unconscious ideological change. Even words always substantive must yield to this. Thus orang, (Mäl.) *man*, may become or have been rang, oran, oran, olan, lan, ala, la, na, da, ra; vowels may change also; thus ora may become or, ar, ere, er, &c. &c. the word actually appears under several of these forms at the present day.

* *Substantives*. The transformation which substantive ideas derived from nature undergo in the mind. The idea of substance being the one primarily and directly stamped on the mind by the external world and continually renewed by it, is the most powerful of all others, and the one on which the mind reposes with the most absolute trust and satisfaction, and to which it always seeks to return. Hence its tendency to clothe its abstract notions with substance. This habit of the mind is reflected in its language in which the substance is always the principal idea, and the active substance the most powerful. Those notions which are substances to the mind only may be termed ideal substances to distinguish them from the real or natural substances. The mind, and language its objective representation, make no distinction between these. Not only does the mind view substances as pre-eminently real and important, but its earliest rational or scientific tendency is to believe them to be endowed with active power and will. This must always be the first philosophical result of observation. A more advanced philosophy only differs from this in uniting all the natural manifestations of this power in the belief in God,—this ultimate truth assuming different forms according to national and individual idiocrasies.

The substantive may be the name of a substance, a quality or a force or motion. The qualitative is the property viewed as united to the substance or as possessing or being possessed by it; the verb is the force or motion ascribed to the substance. In nature there are only substances. The abstractive and relational tendencies of the mind produce the notions of qualitives and verbs, which are therefore the expression of ideal facts, artificial symbols to express the analytic and synthetic processes by the aid of which only the mind can render its ideas thoroughly objective and intelligible to itself. The mind is immediately sensible of substances, it receives and images them spontaneously and involuntarily, and they are to our earliest conceptions, whether of the race or the individual, entirely subjective, not separable from self. From voluntary experiments (experience) the notion that they are separate arises, the first abstractive action of the intellect takes place producing the conception and the belief of their objectiveness. The same process is extended to the subjective conceptions themselves. So that all science results from the necessity of separating what in nature knows no separation, in order to get an objective apprehension of nature at all. The result is that at first we are only conscious of self, and we only become conscious of nature through a process which destroys her unity and renders her a picture of the mind. She is never seen in herself but either as a property of the mind, or from an artificial observatory and with instruments constructed in, by and of the mind. The metaphysical notions of the verb and adjective are not derived from nature, they are modes and instruments of the mind, by which she apprehends nature as composed of attributes and substances, thus transferring modes of thought originating in her want of direct vision or intuition, to nature herself, and making them, by an illusion, modes of existence. But it does not follow because, in one sense, nature only ceases to become a nonentity by becoming an illusion, that there is any imperfection in the mind. On the contrary, intuition, if possible, would prevent the idea of nature as anything but a property of the mind from ever arising. Judging from the only source of judgment, the observation of the mental phenomena, the mind could not have existed otherwise. By her actual method only is the idea of Nature and God possible to a finite or created mind. All language is the product of the finiteness, not of any imperfection, of the mind, which, like every work of God, is and must be perfect.

We have said that nature presents nothing but substances, and that all beyond the reflection of these is the produce of the mind's activity. She compares, divides, transports, and unites the raw materials of observation, till most substanc-

or without an expression of its natural genus; of a concrete substantive and qualitative; of separate substantives and qualitatives. In addition, indications of the relations to time, place, number, order and force, (and these again either simple, or complicated by the number and varying combinations of the parts of a composite whole) enter into the subject, and these relations may be signified in any of the above modes.* The action by the same means may be signified in its simple indefinite sense, or with physical relations, single or combined (force, place, time) and mental relations (moods.) Most of these relations may be attributed, by the method of the particular language, to the subject, action and object viewed as a whole, or to one or two of them. The physical are naturally attributives of the subject, action and object together, although the temporal may be subdivided into those which properly belong to the subject and those which properly belong to the act. The mental relations are peculiar to the subject. Those peculiar to the subject

es have lost much of their substantiality and all their independence. In the toils of reason, the sports of fancy and the commotions of passion, they are tossed and mingled till they all more or less acquire a tinge of the mind's own protean nature. Language takes the impress of all this, and departs in the most wonderful manner from that dry picture of the outward world which it originally, in great measure, was. If we could suppose external objects to be endowed with reason and to have been conscious of their first naming by man, how bewildered must they have been to see their prototypes whirled in the mental vortex till they became almost as delusive as fancy itself, at one moment presenting themselves in the mirror of language true to their pristine lineaments, and the next passing into something else, or fading into purely ideal abstractions. To sober Nature, thus looking on the picture held up to her by language, the whole might seem a wild phantasmagoria. Such truly is the character of every language when viewed under its primary aspect of a representation of the outward world. The mind communicates all her own supernatural power and activity to ideas received from without, and the transformations which they undergo and effect, are as rapid and more strange than those which the combination of physical elements, and the action of the electrical fluid, cause in nature. Indeed it almost seems that language had anticipated the discoveries of modern science, and given man a grand type of the real mobility of matter, long before he came to view it as less inert than it seems to be, and learned from chemistry and geology that every thing that is transforms and is transformed. What the mind presents at every moment of her action, nature pursues as incessantly, and the power of both manifests itself in a perpetual metamorphosis of one thing into another after certain elementary laws which mould and direct their action and are as instincts to both. Hence it is that the mind sympathises with natural laws and phenomena. Hence the delight with which she traces a likeness of her own power, activity and variety in the outward world. Every fresh physical discovery brings her nearer to nature, or rather seems to bring nature nearer to her. The more powerful, subtle and all pervading a natural force, and the more varied and rapid its manifestations, the more akin does the mind feel it to be to itself. It is in this gradual assimilation of the idea of the physical world to that which the mind entertains of her own being, that the secret charm of natural science consists. At every new detection of some subtle movement and transformation which it makes, we are tempted to exclaim how like the mind this is! and to ask ourselves, is there to be any limit to our growing sense of a unity and living force in matter identical with that which the mind manifests ideally?

* Indefinite increase of number, force and action appears to be almost always primitively signified by repetition of the same word or one or more of its syllables, an extension of the word by a double development of the whole or a part. This phenomenon is probably universal in the primary forms of all languages. It retains its complete power in many. In the Malay-Polynesian it is preserved in full action and with much force and variety of application. (See the paper which follows this.)

and object embrace the distinctions of intransitive or neuter (or purely subjective); transitive (or subjecto-objective) with its grammatical subdivisions of active and passive; doubly transitive or reciprocal; and reflective. These relations again may be complicated by the subject and object becoming variously compound. Each may involve not only many distinct notions under various relations, but whole propositions, either uniting themselves by simple connectives or including or overlapping each other. Nearly all the ideological processes above glanced at may be applied to all kinds and combinations of relationship. The more intellectual the mind of the race becomes, and the more abstract its language, the greater the range of these complications. But the same methods are applicable to the most complicated as to the most simple relations and associations, and there are no limits to their extension save those of the intellect itself. However long the chain of ideas, with all their involutions, which the mind can hold objectively before it, so as to embrace all its parts in their combination, language is capable of representing it. Occasionally and to a certain extent in the choice, but universally and much more in the development and perfecting, of the methods by which language gives unity to complicated and connected ideas, ethnic advancement most distinctly portrays itself. Sentences are autographs of the national intellect.* In the ideologies

* In scientific languages there is a constant exercise of all the mental faculties. The same energy which formed the language rules the mind. Objects are viewed not isolated, but in their numerous, diverging, often complex relations. Such a language can serve all the purposes of the highest exertion of the analytic mind, which a language that was purely synthetic could not do. It is a language based on the study of relations, and depends as much on a memory of these relations as on a memory of particulars. By words of relation every kind of modification can be given to the meaning of a word or collection of words of which it is susceptible. In the synthetic we cannot go beyond mere collocation, and the verbalizing power is limited to a fixed number of significations. The verbalizing power in a thoroughly analytic language, is unlimited in the number of its significations and in the range of the objects of which it consists. It is organic like the mind itself. Not only the perceptions but the processes of the reasoning and imaginative faculties are represented by it. Not only the objective world in all its variety, not only the mind in its objective aspect, but the subjective power itself. All the properties and processes by which it receives and acts on ideas, are transferred to language as well as the ideas themselves. Such is or would be the effect of the analytic principle in its full development. Bunsen considers that the inflected languages (Greek, Latin &c.) are the aim and goal of the organic development, perhaps of artistic but not scientific (Meyer). The most perfect language would be one in which every particular idea and act of the mind can be made to stand out in complete significance by itself, and in which the utmost combination possible can take place without a tendency to concretion, that is preserving in all combinations the full significance of each element. A chemical composition hides elements, so in inflections and synthetic combinations, there is a tendency to relapse to the concrete. There is no language that carries out the inflectional method. In the Latin the narrow range of the inflections was probably an advantage, it shewed a desire to arrest the concretionary tendency. We need hardly say that in speaking of languages as analytic and synthetic we mean languages in which these mental tendencies respectively predominate.

The highest languages have been perfected by writing, the parent of all full and precise expression of mind in speech. In unwritten languages the voice is the grand supplement of defective structure. Words that have no cohesion in themselves are blended into an organic whole by the living power of the voice. This indeed is the

of nations we see every stage of intellectual habit, from that which has hardly gone beyond childhood to the highest intellectual energy and cultivation ; nor do we see the broad gradations in power only, but the particular caste, direction and development of the national mind reveal themselves. There may be much discipline and much power with little true science, great energy running to waste from want of true direction—and this too the sentence indicates.* The connection between the intellect and the will enables us moreover

origin of all compounds words and secondary concretes. It is an influence constantly operating
 creases. power as the analytic genius or culture de-
 weakness compound words appears thus to be a sign of
 which the agglutinating process of the Ame-
 rican languages is carried so far from assimilating them to the Indo-European, appears to remove them to a much lower stage. It indicates a deficiency in imagination and intellect, in the culture of the memory and in the power of analyzing ideas, and a want of free abstract power in words. In more intellectual languages the mind retains the connection of the ideas in the most complicated and long drawn sentence, and the multitude of highly abstract and generic words renders possible the greatest variety of combination. The sense of each word accommodates itself to those with which it is connected. In concrete languages this is impossible. In scientific languages the mutual dependence and relations of all the successive words and combinations of words are impressed on the mind simultaneously with the separate ideas conveyed by each. Each successive word not only contains its proper idea but combines with what has gone before and suggests something of what is to come. The American languages seem to want this power of interweaving a long succession of words into a symmetrical and organised unity. In this respect they rather approach the Malayu-Polynesian than the Indo-European languages. But instead of depending on collocation and tone they run many words together into one. This must have arisen from an inability to place these words together in sentences. The same difficulty occurs in Malay. Every attempt to construct a long and involved sentence like the opening one in *Paradise Lost* necessarily fails. When we have placed a few words together we find that we have arrived at the end of a sentence. No further expansion can be given to it. Probably the same phenomenon is exhibited by the American languages, and it was in the effort to carry on the connection that sentence after sentence was verbalised into a single compound word. But the character of the language is not thereby changed, or assimilated to the Indo-European. The compound verb remains as unorganic as the words of whose fragments it is formed.

Those nations which have not a high analytic power and have not consequently given a full objective existence and importance to all the varieties of relational words, particles or inflections, can only express complex combinations of ideas by a series of verbal agglomerations. Where the phonetic current is free, this exhibits itself either in a hurried rapidity of speech, or in the elision of parts of words, or in both combined (Tamilian, Australian, Japanese). The Sanskrit itself carries us back to a period when the Indo-European languages partook of this weakness of the analytic and abstractive faculty, and the dependence on a phonetic junction or conglomeration of words to express the connection of the ideas. When the phonetic current is obstructed by tones, complex combinations are mainly dependent on collocation and the listener's sagacity (Chinese, Anamese, Thai, Burman). The influence of this habit of the tonic languages is still largely impressed on their Malayu-Polynesian and Turanian descendents and congeners, as we shall hereafter shew. In the above remarks I have considered the languages of Asia (except the S. W. portion occupied by Turanian and Semetic races), Oceania and America to belong to one family, a fact of which I shall bring forward numerous evidences.

* All kinds of mind are born into each race and the general intellectual habits not only undergo a slow process of change but are subject to temporary stagnations of vital energy. But the national intellect like the language retains its peculiar qualities, which regain all their germinal vigour, and bloom more richly, at every fresh revival.

to conclude from the character of the sentence whether the race is indolent or energetic, deliberative or impulsive, &c.

There is a wonderful difference in the degree of perfection to which different races have brought the art of speech or the construction of sentences.* In the Indo-European very great skill and refinement are displayed in this respect, and also a rich variety. The grand difference between languages in the stage of development which these have attained and those of less cultivated races, consists not so much in the preference given to certain ideological methods over others, for the same methods are used by these races, as in the fullness and accuracy with which every kind of connection is expressed, the number, variety and delicacy of relational terms, and the skill and artistic grace with which the whole is moulded.†

Comparison and classification of languages.

19. The comparison of languages must be based on a complete analysis and classification both of words and ideological processes. As we have already said all these processes are inherent in the consti-

* The mere difference between the use of inflection-roots and separate particles or relational words appears to be very slight, and not deserving of the importance that has been assigned to it. An English sentence is capable of as much clearness, fullness, precision and beauty as a Latin one as far as structure is concerned. Their essential difference is in their phonology. If the English were as vocalic as the Latin, if for instance our, the, of, from, with, &c., were euphonic monosyllables, the difference in speaking would hardly be appreciated, and this difference would almost disappear if the relational words were postplaced instead of preplaced. In the euphonic Malay if directives were placed after instead of before substantives, they would in speech, unite to the foregoing words as intimately as the Latin inflectional roots. Thus we might have *ruma, rumania, rumaka, rumadi, &c.*

<i>kasiku, amo.</i>	<i>kasináku, amabo</i>
<i>kásikau, amas.</i>	<i>kasinákau, amabis</i>
<i>kasinia, amat.</i>	<i>kasináoia, amabit</i>
<i>kasikami, amamus.</i>	<i>kasinákami, amabimns</i>
<i>kasikamu, amatus.</i>	<i>kasinákamu, amabitis</i>
<i>kasinia, amant.</i>	<i>kasináoia, amabunt</i>

† All which is directly dependent on the mental organism and development of the race, and is in fact only its expression. Every particular intellectual discovery (and I apply the word to every original thought that arrests the attention of the mind and becomes an objective fact for it, no matter what the kind) is impressed on the language. The relative energy and fertility of national intellects is therefore soon bodied forth in the national language. If an intelligent European who never saw or heard of Malays could be found, he could from the mere language ascertain the intellectual characteristics of the race as compared with his own. The Malay mind in the force and form of its perceptive, imaginative and analytic functions and developments would lie truly and distinctly before him, with much of its moral characteristics also. Its comparative feebleness, indolence, subjection to the senses for its ideas and its enjoyments, its want of strong vitality and fecundity producing an absence of intellectual enterprise and a contentedness with its old and poor stock of spoken and written ideas, its low grade of abstractive power shutting it out from the great bulk of the intellectual ideas which the European mind has discovered and expressed, the weakness and inconstancy of its attention and consequently of its memory, the facility with which sensational pleasures draw it away from all severe mental effort, the consequent absence of that intellectual stoicism (dependent on moral) which enables some barbarous tribes to attain ideological forms approaching in complexity though not in organism those of the most cultivated

tution of the mind and vocal organism, and any of them may appear in the most widely separated languages.* It is mainly therefore on the proportionate extent to which each has been availed of, and the modes in which they are combined, that we are to base a comparative ideology. We find the most beautiful processes of the highest languages often appearing in rude ones. It is in the combination of processes, the extent to which each operates, and the modifications of its operation by the influence of that of others, that the ideological character of a language consists.

20. It has not lain within the object of these remarks to attempt any criticism of the approximations that have been made to a classification of languages. It has rather been our wish to suggest an avoidance of premature generalizations, and a conviction that our knowledge of the languages of eastern Asia in particular is yet in its infancy, and must be acquired by commencing anew with a higher conception of the ends and methods of linguistic research. There is not a single view contained in the preceding pages that may not be applied to these languages. It is only by approaching them in many different directions that we can hope to understand them. We are far from undervaluing the progress that has been made, and we even believe that the place which has been assigned to these languages, from a general view of the peculiarities of their formation and structure will receive little change, though it will be more clearly and correctly defined. The question what constitutes a family of languages has not yet been answered. Does agreement, and what extent of agreement, in structure alone suffice? We shall content ourselves for the present with this position that wherever there is such a general resemblance in the phonology, structure or roots of different languages as cannot reasonably be considered fortuitous, and points to a common origin, these languages may be considered as belonging to one family. But to fix the true position and relations of each language, it must be analysed in all its phenomena and fully and accurately described. The value of particular points of agreement is small. It is the combination of several kinds of resemblance that alone has importance in ethnology. The

nations, in a word, the inherent and all pervading weakness of the will, the great central spring of the mind, would be as distinctly revealed to him in a few pages of any Malay book, as in a history of the race.

* All the varieties of mind which caused varieties of language must be reproduced in every generation in every race. Each Idiocracy must to a certain extent mould the national language to its own laws. When the Idiocracy of the individual and the ideology of the language are in full accordance, the linguistic style of the individual will be most natural and pleasing. When they are diametrically opposed the result will appear forced in comparison. Nevertheless as every language has been developed to its existing richness, by the operation on it of all classes of mind, it must have a certain fitness for the expression of the ideas of all idiocratic classes of the people who speak it. The first step then is a definite notion of the different kinds of style prevailing in a language—their relation to temperament and idiocracy.

elementary phonetic character appears to us to be of very great importance for comparative and ethnological purposes, because it is more likely to remain permanent than either specific words or specific structural habits. The mere change from a monosyllabic to a polysyllabic structure of words does not necessarily change the primary phonetic tendencies. The first investigation therefore in every language is the phonology, and the necessity of this has hitherto been so little recognized that for a time it is hardly possible to err in making it too minute.

*All languages slowly change. Dependence of the rate and nature of the change on external circumstances.**

21. The application of the principles which we have glanced at rather than examined, to the change which language undergoes from era to era is of the highest interest and importance. But we must be satisfied at present to refer to our passing remarks on this application contained in the preceding pages.† In this consists the science

* This heading is too general for the remarks which the section contains, as these have special reference to the rapidity of the change in thinly inhabited jungly countries, like those of the mountains of S. E. Asia and the Indian Archipelago. The subject as a whole is well worthy of separate treatment, and is of vast extent. It would require a consideration of the ethnological character and history of each race. No great national change either in geographical position, in relations to other nations, or in internal development, can take place without affecting the language. Those peoples which are most open to external influences must show this in their language. Few have remained less isolated than our own; and none can shew better the effects of conquest, communication of ideas, &c. than the English language, as it is by men of genius, by extension of territory, by the growth of words drawn from the languages and literatures of other nations, that the English language has been enriched. The comparative civilization and intellectual activity of races are nowhere better evidenced than in their glossaries. Within the last hundred years we have added to our language about four times the number of words contained in the whole vocabulary of the Malayu.

† We have no right nor desire, in a purely scientific enquiry, to assume the unity of the human race, but if we do so and believe that all languages began with a common primeval vocabulary, or even that there are families of languages, it must follow from these premises that all unwritten tongues are incessantly changing, and that in process of time all resemblance, save in structure and a few scattered words, is obliterated. We think we can demonstrate from observation, and without any reference to the question of unity of race, that this is the natural tendency of oral language in all uncivilized regions. A slow metamorphosis goes on even in written languages of civilized races, as is well illustrated by the German. How much more must it be the case with the wholly unwritten languages of forest tribes like those of the Malay Peninsula.

If the laws of development i. e. laws expressing not only the mode and rate of development when circumstances remain the same, but under the known changes and combinations of changes,—were better known, languages might be found to preserve the chronology of the race, a rude one certainly somewhat analogous to the geological. For instance if the language of the Sandwich islands has much in common with the Malayu of Sumatra, the separation from a common stock must have been less ancient than in another island evidently peopled by the same race and similarly circumstanced, geographically and historically, in which the language has more diverged.

The nomadic habit of a race may preserve resemblance of language. 1st, because it implies a retention of the same habits under geographical circumstances which admit of that retention. 2nd, because it keeps open the

of the divergence of different languages from a parent one, and of the gradual operation on each successive branch, of external circumstances and events and internal development, in enlarging, contracting, wearing out, and changing, the meanings of old words and methods, and introducing new ones. In many of our remarks we have had in view that more regular growth, developement and change which take place in communities fixed to one locality, and with all the social influences of congregated numbers in full action from generation to generation and age to age, a condition of existence in which every external object and custom is linked to the national mind, and in proportion to its greater or less permanence helps to preserve the past in the present. But when we consider language in relation to a thin and rude population, scattered in families and small aggregations of families over wide spaces of the earth, separated by distance, or the natural barriers of mountains and dense forests, we view it as divested of those influences, and subject to have the development of every idea beyond those which are common to all races, hindered, forced aside from its original direction, or arrested. When every individual family or company that wanders to a distance from a community soon becomes lost to it, and this separation and isolation is frequently repeated from generation to generation, the primitive stock of spoken ideas and words cannot be carried and carefully preserved, without a degree of intellectual energy which is inconsistent with such an ethnic condition. The most necessary and universal, being in constant use, are never lost sight of, although they may undergo many phonetic and other modifications, but the greater proportion of all the rest are liable to be dropt by the way and forgotten.*

communication between the families of the race, ex. gr. the nomadic pastoral Tartar, the nomadic maritime Malayu. But if any family becomes fixed and isolated, with the loss of the nomadic habit the language will diverge ex. gr. wild tribes of the mountains. In the Malay Archipelago almost every island exhibits evidences of the co existence of both phenomena. The first operation of such a region is to produce a vast number of distinct families or petty tribes and dialects. Civilization and power, growing out of the increase of population in favorable localities, first check and then reverse this operation. On the great ethnic stage barbarism creates languages, civilization destroys them. The great ethnic power of the first is repulsion, and of the last attraction. The further we go back in the history of the Archipelago, up to a certain epoch the more tribes and dialects we shall find. There are single islands in it, of small extent, which, having remained isolated, possess more dialects than all the wide region of Polynesia. The conclusion is inevitable that the population of the latter is comparatively modern. They must have left the Archipelago at a late epoch in its history, perhaps one not long preceding its discovery by the Peninsular Indians, and certainly subsequent to the full developement of its indigenous civilization. The allied Philippine and Celebesian languages and manners direct us to the eastern part of the Archipelago for the earliest seat of that development, a seat first occupied at a period so remote that it preceded the origin of letters and arts in China, and was probably coeval with the earliest boat navigation by the tribes on the mouths of the Chinese rivers and those of the Indo-Chinese peninsula.

* See Journ. Ind. Arch. I. 174, 5.

The extent to which the vocabularies of contiguous and allied tribes diverge under such circumstances is so great, that the preservation of even a few words of the primitive stock by widely separated branches of the same family, is a remarkable phenomenon. It cannot however be supposed that all the other words are separate inventions of each tribe. This can only take place where the greater part of the original vocabulary has been altogether lost, a case which can hardly happen unless when a family wanders into an entirely new region, or when a single pair live isolated. The circumstance of many dialects with large glossarial differences, being often found in limited spaces having the same geographical characteristics, leads us to give most importance to the latter cause of divergence. It is one which may have frequently come into operation without producing any permanent change. But instances must have occurred in all jungle covered regions of considerable extent or broken by natural obstacles into strongly separated tracts, in which men seeking isolation, either from an unsocial disposition, or to escape vengeance, or on account of loathsome disease, have been accompanied by their wives, and become the progenitors of new tribes. A single pair removed from the accustomed haunts, deprived of the society and assistance of others, and living in a state of fear and hardship, would lose much of whatever copiousness of ideas and language they formerly possessed. In the lowest states of savage existence there is frequently a moroseness and stupidity on the part of the men, and a habit of treating women as mere slaves, which would render the mutual converse between an outcast pair a very insufficient preservative of language. But making full allowance for these and even more unfavourable cases, I think we must look to phonetical changes, gradually brought about in the course of ages, as the principal source of that "confusion of tongues" to which we have adverted. From the great variety in the modes of articulation, and of expelling the breath during the process, and the large influence of a predilection for particular kinds of sounds, that are observable in the numerous races with which we are here in contact, I am satisfied that words may gradually become totally changed. I am also strongly inclined to believe that the physical character of the race, affecting not only the general nervous and muscular system but the shape and powers of the vocal organs themselves, has a considerable influence in this permutation of words. The whole subject requires investigation. Its apparent difficulty lies entirely in its novelty and in the necessity for a large accumulation of delicate and patient observations. The comparison of the languages of the Archipelago in their present state leads us to a recognition of this process of transformation. The changes that have least affected the words are those that first strike us, and they are necessarily confined to the commutation of allied sounds. But these are only the beginnings of change. In others we find the boundaries of the organic classes overstepped, a

surd guttural for instance replaced by a surd dental. In whole languages we find consonants losing their completely articulated and vocalised character, and in this weak or half uttered form they must, like the weak forms of the vowels, be more easily permutable. We find final consonants rejected altogether or increased by taking a vowel after them; this vowel takes a semivowel (ng, n, r, l,) or an aspirate (h); these semivowels and aspirates pass into consonants of the same class; so that, slow and by many gradations as the process must in general be, it is probably true that there is no consonant which has not come, in one dialect or another, to be replaced by every other. If these changes were abrupt there never could be any effective phonetical study of the history of words. But they are exceeding gradual. At every epoch the phonology of a language is a united and consistent whole. The transforming causes do not seize on particular words. They are organic and affect the whole language. Changes in one class of sounds imply changes of a certain kind in others. In a great family of dialects believed to be of similar origin, we can first ascertain the existing phonology of each, and then by a comparison of these phonologies as wholes, followed by that of words in different dialects whose identity has not been obliterated, we may hope to discover the direction of change in each separate dialect, ascend to its earlier stages, carry back the divergent phonologies to a common source and even obliterate the distinction of races.

Ideal Conversion.

22. The principal agent in the change which a regularly developed language undergoes is what may be termed the process of ideal conversion. In verbal or grammatical conversion the principal idea remains the same, the change is only in the relations. In ideal conversion one idea is substituted for another. Thus ideas of place are converted into ideas of time. This arises from the idea of time being involved in the idea of relative place or distance. The element of place is thrown out, and the locative remains a temporal expression. *Here* becomes *now*, *there* becomes *then*. So the idea of place involving that of the things or events at the place, the locative idea is ejected, and the word of place indicates the thing or event.

23. There are many points of much importance which we have omitted or only incidentally noticed, but we have so strongly felt the difficulty of elucidating the more abstruse topics without resorting to examples, that we have thought it better to leave this introduction in its present fragmentary state, and reserve what we have further to say for notes to the illustrative paper which follows.

24. In conclusion we would insist on what we hope has never been lost sight of in the course of the preceding remarks, viz. that the only path to a true knowledge of the past lies through the present. It is by a patient and earnest observation of the phenomena of the

Malayan languages as they present themselves in the actual speech of the people at the present day, that we shall learn those principles, tendencies and habits that first gave these languages their peculiar form and characteristics. The same organic causes that give to the Malay his distinctive physical and mental character, operate on his language, and have never ceased to do so since they first moulded the progenitors of the race. The mental force and habits which make and keep him what he is, are as ancient as the race and the language, and no amount of glossarial change in the latter has any where destroyed its unity, or rendered it the less Malayan. The phonetic and ideologic habits are perennial while the race exists.* Let us study them in the living generation, not doubting that however far back we carry our researches, we shall still find in them a true and steady light illuminating what would otherwise be lost in darkness, or only lead us into endless conjecture and speculation.

Although we are opposed to the habit of breaking up what in nature is one into departments, and investigating these separately, and think that in language of all other phenomena this must obscure the truth and impede our progress, yet for the methodical arrangement of facts in their details, some divisions like the following may be made.

I. **ORGANOLOGY OF LANGUAGE** :—Language viewed exclusively as a material, inert production, that is in actual speech that has been delivered or written.

1. *Elementary Phonology*, or the knowledge of the material substance of language. The description of vocal sounds and tones, both simple and in their various possible combinations, with the mode of their production, and their phonetic and anatomical relations, alliances and accommodations. To this may be added the graphic expression of ideas, words and sounds (ideographic, including emblematic or symbolic; syllabic; phonetic or alphabetic; all which treated as a general science, may be termed graphology.)

2. *Structural Phonology*. The description of the various linguistic vehicles of thought, or modes by which the substance of language can be used for the purpose of expression, including the kinds of combination of syllables into words and of words with each other, by collocation, juxtaposition and composition, the change effected in words by additions, subtractions, modifications and substitutions of sounds and tones, with the causes of these whether purely phonetic or euphonic.

3. *Organic or Structural Ideology*. The different applications of the structural methods.

II. **PHYSIOLOGY OF LANGUAGE** :—Language viewed as taking life and form from the mind, both in its first origin, its developments and its constant reproduction in speech or writing.

* There are but few instances in which a race has been preserved pure and rejected its language for a foreign one.

The vital power of language is neither the sounds nor the structure, but it is intimately allied to them, inasmuch as it adopted and vivified the former, generated the latter, and works through both.

1. (a.) *General Physiology* :—the principles or laws under which a language is created and subsists.

(b.) *Historical Physiology* :—the laws of change and progress.

2. *Particular Physiology*

(a.) *Lexicology* :—the meaning of particular words or the elements of speech.

(b.) *Ideology of words* :—the relations of the vocabulary to the mental character and habits of the race.

(c.) *Ideology of speech* :—The laws of the combinations of the elements of speech.

(d.) *Etymology*. The history of words and their ideological combinations.

III. ETHNIC PHILOLOGY :—(a.) *Particular* :—The distinctive attributes of a language in all its aspects, including its general psychological character, compared with other languages. The determination of its place in a classification of languages. Its ethnological alliances and its history as a whole.

(b.) *General*. The ultimate philological science drawn from all languages; and a classification of the latter founded upon it. If this science ever be perfected it will contain the essential history of the human race in all its various developments, stagnations and degenerations.*

* "Neither may these places serve only to prompt our invention, but also to direct our inquiry. For a faculty of wise interrogation is half a knowledge. For as Plato saith, 'Whosoever seeketh, knoweth that which he seeketh for in a general notion, else how shall he know it when he hath found it?' And therefore the larger your anticipation is, the more direct and compendious is your search." BACON:

DISEASES OF THE NUTMEG TREE.

"God Almighty first planted a Garden, and indeed it is the purest of human pleasures; it is the greatest refreshment to the spirits of man, without which building and palaces are but gross handy works: and a man shall ever see that when ages grow to civility and elegancy, men come to build stately sooner than to garden finely, as if gardening were the greater perfection." So wrote Francis Lord Bacon near 300 years ago, and this pleasure still exists in the human heart as pure and as fervent as when, 6000 years before, the first man was turned from his Maker's hands into the first and finest of all gardens—the Eden of our Scriptures. Inheriting as we do all the feelings of our first progenitor, that of the pleasure derived from planting and gardening still exerts its sway, and may be one of the reasons why with all of us there is the intense desire to possess a little land to lay it out in flowers or trees, according to our several tastes. Other inducements to planting and gardening there are, than the innate one just mentioned. What denizen of a crowded town, where nothing but houses and men meet his eye, but must be pleased with the lively colours which many of our flowers put on—but if we add—days of dry monotonous desk work in an atmosphere no better than second hand, polluted by the respirations of thousands upon thousands, their refuse and filth, still more deteriorated by drains that cleanse not, and by canals, the receptacles of the abominations of a large city, where business denies its slaves that wholesome exercise which lightens the body, and clears the intellect, which does more than merely allow a man to exist, by giving him the enjoyment of that existence, will it then be wondered at that the business man is ravished with the sight of the deep green jungle, or wakens in the morning after a most unusually refreshing night's repose, believing himself in the land of his youth, when no heat fevered his blood, but the cool winds, as they sougled through the trees, like a lullaby soothed him to sleep.

No wonder is it then, that all settlers in this pleasant island, are, after a short residence, so desirous of exchanging the town for the country, a foul atmosphere for a pure one, business for pleasure, streets for a jungle, and hot nights for cool, by which I dare venture to say, ten years will be added to an ordinary life time. To all these inducements I am told there is yet another which would of itself kick the beam in the comparison betwixt town and country, that a residence in the country and as a "sequitur" the formation of a plantation is a profitable investment of our spare cash, to which reason may be ascribed the pretty yet expensive plantations that adorn our hills, and which will ere long change this island from a jungle to a garden. In Europe, but more especially in Great Britain, the agriculturist has great facilities over his brother in the East, and there the superiority of one culture over

another, may be traced to the proper application of the recorded experience of past ages as well as the enlightened present, to the circumstances under which the planter is placed ; but here it is different, for all is novelty with us, there are no records of the past to guide us, while the recorded experience and science of the west is little else than a dead letter. All that we have to guide us is the personal experience of each, in all cases dearly bought. Is there a planter of ten years standing who, on a review of the past, will not acknowledge that if he then knew what he does now, one half his expences might have been saved ? I would from this time make your Journal, Mr Editor, a record of each planter—when time and inclination will allow him to aid in this most useful task. All have not the inclination nor time to write an essay on any particular subject, but all who direct their attention to one particular object, can at least answer a few questions if better informed than the interrogator, while he who imparts his knowledge and experience on one point may require to be informed in turn on another. Allow me to break the subject by calling the attention of your readers to a Nutmeg plantation, and to one point connected with it,—the diseases which attack the trees and fruit.

The first disease in importance might be called the Nutmeg canker, from its resemblance to the canker which attacks the Pear at home, but it still more resembles the "*Lepra Nigricans*" which attacks the natives of the East, and which daily can be seen by the curious on this subject, in the miserable shed set apart for Chinese paupers. This canker of the Nutmeg attacks the fruit, fruit stalk, and branches. When the fruit is attacked it appears dark brown over nearly the whole surface, with deep fissures which pierce the skin to the depth of an eighth of an inch, and in those parts where the fissures are, the colour inclines to a brownish black. These fissures run in all manner of ways, crossing one another like wrinkles in the palm of the hand. Where these fissures are, the skin of the fruit is dry when cut, and presents the brown appearance of the outside for some depth. These parts of the fruit which to the naked eye are merely discoloured, when examined by a powerful stanliope lens are proved to be rough and elevated above the natural skin, as if some insect had crawled over it, broken the cuticle and caused an exudation of the juice of the fruit. On examining a part, a little darker in colour, incipient fissures are seen—but which penetrate the cuticle to a very slight extent. These fissures are seen on the flower stalk and the bark of the branches and stem, which are rough and wrinkled, shewing that the whole cuticular structure of the tree is affected. The moment the flower drops and exposes the young fruit, on it can be seen a slight trace of the disease, which increases with its growth, the brown appearance extending and the fissures deepening, until the fruit prematurely opens, displaying the mace, white in most cases, and the nut fully formed, or before that stage arrives the fruit drops off,

cut across by the deepening of the disease at the junction of the fruit with its stalk, similar to what we find in the leprous subject, whose toes drop off from the extension of the disease through all the tissues from the skin to the bones themselves. A few of the fruit go on to full maturity, opening with red mace and well formed nuts. The quantity of nuts does not seem to be affected by this disease, nor generally the healthy appearance of the leaves. Some trees are but slightly affected, the brown patch of the fruit to the naked eye having no fissures—but the cuticle is always rough and wrinkled. The number so affected may be one per cent; the number affected in the severest type with this disease is not more on this plantation than one-fourth per cent. In Pinang, I understand the disease is very prevalent so as seriously to affect the crop.

Of the measures taken to eradicate the disease, and their failure.

Three years ago, on first noticing this disease and thinking it might owe its cause to the ordinary aphid, which often attacks the trees, I ordered one in particular, about ten years old, to be limed by washing the branches and stem with lime water; that failed. 2nd. Thinking it might proceed from a cold stiff soil and defective nutriment, I had the ground well dug all round the tree, a drain made to carry off any water that might have lodged about the roots, while I manured deeply, and top dressed with cow dung and burnt earth; but that failed. The leaves put on a most healthy deep green hue, the fruit were abundant, but as they matured the disease showed itself as before. 3rd. Observing how the cuticle of the branches and stem was affected, I scrubbed and washed those parts with an infusion of the Tuba root in which was mixed certain quantities of sulphur and Bengal soap; but that had no effect. 4th. Having heard that the tree when so affected can be cured by cutting off all the branches and the stem close to the ground, I did so, watched the sprouting of the leaves, the growth of the branches, their blossoming, and the development of the fruit, but to my sorrow, I found the disease there, in as full force as before. 5th. Considering the disease as incurable, I cut down the tree, dug out the roots, and planted another in its place whose fruit is healthy.

Conclusions.

From experiment No 1 having failed, it is evident that this disease is not of the same kind which frequently attacks the leaves of the nutmeg plant, depending upon an insect which blackens and then destroys them. Nor does the disease depend upon the nature of the ground, as trees within a few feet are healthy and the fruit arrives at perfection.* The experiment No. 2 also shews that no trenching, digging, draining and manuring are of any effect, and from another

* Another conclusion I would draw is that this disease is not contagious, as I have not noticed the trees adjacent to those affected, to be in the slightest degree touched.

tree having, after being transplanted, borne fruit without the disease, a still further proof is furnished that the soil is not the cause. The experiment upon the bark and the cutting down of the tree and the return of the disease on the new branches and fruit, show that the disease was not derived from external sources after the tree was planted, but must have been derived from the seed—and unless other planters by other experiments can prove that after such, the fresh fruit is uninjured, the last conclusion I would draw is that when the disease becomes so bad as I have described, the sooner the tree is out of the ground and another planted, the better.

Bonny Grass.

R. L.

GOLD IN SARAWAK. FALL OF A PORTION OF TRIAN, AN
AURIFEROUS MOUNTAIN.

THE rains at the beginning of this month of last year, fell in great quantities in Sarawak, and a considerable portion of the face of a mountain called "TRIAN" was washed down into the plains below.

The deposit was found to abound in Gold, and afforded work for fully two thousand men for about a month or six weeks, and it was reckoned that at the smallest average, they procured a bunkal a month per man.

The gold was in lumps, and not in dust, and several of the lumps weighed from three to four bunkals, and they were rarely less than one or two amass in weight.

This single fact may, in this locality, lead at some future day to important conclusions, and I am induced to notice it, as it corroborates the statements in Mr Low's work, and at the same time is contrary to the received opinion, and the experience of the workings in the Brazils, where gold is rarely to be traced to the gold neighbouring mountains.

Sarawak, 2nd Novr. 1849.

C. GRANT.

* * We omitted to note in the proper place that we are indebted for the Report on Singapore to the Hon. T. Church, Esqr. Resident Councillor.

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THE JOURNAL OF THE INDIAN ARCHIPELAGO AND EASTERN ASIA.

Edited by J. R. Logan Esq. F. G. S. Member of the Asiatic Society, Corresponding
Member of the Batavian Society of Arts and Sciences and of the
Ethnological Society of London.

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AGENTS.

Singapore,	Messrs. Little, Cursetjee & Co.
Malacca,	Messrs L Neubronner & Co.
Pinang,	G. H. Smith Esq.
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VOL. I.

GENERAL

The present Condition of the Indian Archipelago, by *the Editor*.

Gutta Percha, by *T. Oxley, Esq.*, A. B., Senior Surgeon of the Settlement of Prince of Wales Island, Singapore and Malacca.

Shair Bidasari: A Malay Poem, with an English Translation and Notes, by *the Editor*.

Introductory Remarks to a series of contributions to the Ethnology of the Indian Archipelago, by *the Editor*.

The Laws of the Indian Archipelago and Eastern Asia, by *the Editor*.

Miscellaneous Notices, Contributions and Correspondence.

Malay Pantuns.

THE BRITISH SETTLEMENTS ON THE STRAITS OF MALACCA.

Annual Remittances by Chinese Immigrants to their Families in China.

Notes on the Geological Features of Singapore and some of the Adjacent, *Lieut.-Colonel Low*, c. m. R. A. S. & E. A. S. C.

A few remarks on Conchology

and Malachology, comprising brief notices of some of the more remarkable "Testacea" in Singapore and its neighbourhood; with an appended catalogue of Singapore Shells arranged in conformity with Lamark's System, by *Wm. Traill, Esq. M.D.*

THE MALAY PENINSULA.

Notes on the deposits which have been discovered along the Siamese Coast from Pinang to the vicinity of Junkceylon, by *Lieut. Colonel Low*, M. A. S. C. & C. M. A. R. S.

Discovery of Coal in Ligor and Keddah on the West Coast of the Peninsula, by *the Editor*.

The Orang Binua of Johore, by *the Editor*.

Physical Characteristics of the Mintira, by *the Editor*.

The Superstitions of the Mintira, with some additional remarks on their customs &c. by *the Editor*.

Visit of a Party of Orang Mintira to Singapore, by *the Editor*.

The Orang Sabimba, a Tribe of the Extremity of the Malay Peninsula, by *the Editor*.

The Orang Biduanda Kallang,

a Tribe of the River Pulai in Johore, by *the Editor*.

The Orang Sletar, a Tribe on the Rivers and Creeks of the Old Strait and estuary of the Johore, by *the Editor*.

Table of Measurements illustrative of the Physical peculiarities of the Mintira, Biduanda Kallang, and Sabimba, by *the Editor*.

Remarks on the Sletar and Sabimba Tribes, by *J. T. Thomson, Esq. F. R. G. S. Hon. M. N. H. S. of Newcastle*.

Examination of the Coast of the Peninsula from P. Mutiara to P. Panjang in Search of Coal deposits in November 1847, by *Captain Congalton, Commander of the Govt. Steamer Hoogly*.

THE JOHORE ARCHIPELAGO.

A Glance at Rhio; by *J. T. Thomson, Esq. F.R.G.S. Hon. M. Newcastle Nat. Hist. Soc.*

The Ethnology of the Johore Archipelago, by *the Editor*.

SIAM.

On the Laws of Siam, by *Lieut.*

Col. James Low, C. M. R. S. & M. A. S. C. &c.

COCHIN CHINA.

Details respecting Cochin China, by *Mgr. Le Fevre, Bishop of Is-auropolis and Vicar Apostolic of Lower Cochin China*.

Narrative of the events connected with the arrest of the *Right Rev. Mgr. Le Fevre*, by the Cochin Chinese Government in 1846.

BORNEO.

Some Remarks on the Dyaks of Banjarmassing.

Temminck's General View of the Dutch Possessions in the Indian Archipelago.

Some Contributions to the Natural History of the Rafflesia Patma, by *M. Zollinger, M. B. S. &c.*

Contributions to the Statistics of the Population of Java, by *Dr. P. Bleeker*, Mem. and Sec. Bat. Soy; Med. Serv. Neth. India.

Description of Karrang Bollong (in Java) and of the Bird's Nest rocks there.

VOL. II.

GENERAL.

Area of the Indian Archipelago, and of the Islands claimed by the Netherlands.

On the Polynesian languages and races, by *J. Crawford, Esq. F. R. S.*

Customs common to the Hill Tribes bordering on Assam and those of the Indian Archipelago, by *the Editor*.

A Scheme for representing Malayan sounds by Roman letters, by *J. Crawford, Esq. F. R. S.*

Antiquity of the Chinese trade with India and the Indian Archipelago, by *the Editor*.

On the Alphabets of the Indian Archipelago, by *J. Crawford, Esq. F. R. S.*

THE BRITISH SETTLEMENTS ON

THE STRAITS OF MALACCA.

On the habitual use of Opium in Singapore, by *R. Little, Esq. Surgeon, Late Demonstrator of Anatomy at the Argyle Square School of Medicine, Edinburgh, &c.*

View of the State of Agriculture in the British Possessions in the Straits of Malacca, by *J. Balestier, Esq. Cor. Mem. Am. Institute, Mem. Ac. of Rhienms &c.*

Notes on Malacca, by *J. B. Westerhout, Esq. Assistant Resident at Malacca*.

The Chinese in Singapore, No. II. General Sketch of the numbers, tribes, and avocations of the Chinese in Singapore by *Siah, U Chin*.

An essay on Coral Reefs as the cause of Blakan Mati Fever and of the Fevers in various parts of the East, by *R. Little, Esq.*

Preparation of Pine-apple fibres in Singapore for the manufacture of Fina cloth, by *the Editor*

Range of the Gutta Taban collectors, and present amount of imports into Singapore, by *the Editor*

The probable effects on the climate of Pinang of the continued destruction of its hill jungles, by *the Editor*.

Some account of the Nutmeg and its Cultivation, by *Thomas Orley, Esq* A. B. Senior Surgeon of the Settlement of Prince of Wales Island, Singapore and Malacca.

Notices of the History and Present Condition of Malacca, by the *Hon. E. A. Blundell, C. S.*

MALAY PENINSULA.

Sketch of the Physical Geography and Geology of the Malay Peninsula, by *the Editor*.

An account of the Wild Tribes inhabiting the Malay Peninsula, Sumatra, and a few neighbouring islands, by the *Revd P. Favre*, Apostolic Missionary, Malacca

Journal of a voyage to the Eastern Coast and Islands of Johore, by *the Editor*.

Notices of the Geology of the East Coast of Johore, by *the Editor*.

CHINA.

A General view of what are regarded by the Chinese as Objects of Worship, by the *Revd A. Stronach*.

SUMATRA.

Memoranda respecting Sumatra coal, by *Lieut. Col. Low, M R A S.*

BORNEO.

The Geographical Group of Borneo (from Temminck's Coup d'Oeil.)

Borneo.

Notices of European intercourse with Borneo Proper prior to the

establishment of Singapore in 1819, by *the Editor*.

Traces of the origin of the Malay kingdom of Borneo Proper, with Notices of its condition when first discovered by Europeans, and at later periods, by *the Editor*

The Virgin Daughter of Sultan Bongsu, a Dayak tale with a Translation.

Report on the island of Banka, by *Dr Horsfield*

Recent History of Banka, and mode of life of Dutch officials there, by *Dr. Epp*.

JAVA.

Visit to the Tankuban Prahu in Java after the eruption of the 27th of May 1846, by *Dr. Bleeker*.

A trip to Probolinggo, by *Jonathan Rigg, Esq M B. S.*

CELEBES.

A White Deer.

Some notices of the Northern or Dutch half of Celebes.

A Glance at Minahassa (Mena-do) by *M. Spreewenburg*.

BALI AND LOMBOK.

Recent Scientific Researches on the islands of Bali and Lombok.

Notices of Lombok, by *the Editor*.

Of the Religion of Sassak, by *M. Zollinger*

SAMBAWA.

A contribution to the Ichthyology of Sambawa, by *Dr. Bleeker*.

A visit to the Mountaineers, Do Dongo, in the country of Bima, by *M. Zollinger*.

TIMOR.

Specimens of the Dialects of Timor, and of the chain of Islands extending thence to New Guinea by *G Windsor Earl, Esq. M. R. A S*

FLORIS.

Cannibals on the island Floris.

SEMAU.

Offerings on the island Semau.

VOL. III.

The following are the contents of the numbers of Vol. III which have been published.

GENERAL.

A Translation of the Keddah Annals termed Marong Mahawangsa and Sketches of the ancient condition of some of the nations of Eastern Asia, with references to the Malays, by *Lieut Col J. Low*, C M R.A.S. & M.A.S.B

The Language and Literature of the Island of Bali, by *R. Freiderich*, Esq.

The Languages of the Indian Archipelago, by *the Editor*.

The Statistics of the Nutmeg.

Piracy in the Indian Archipelago, by *Spencer St John*, Esq.

Malay Pantuns

The Manners and Customs of the Malays, by *the Editor*.

Panghulu Kisang.

Sago, by *the Editor*.

Sago in the Moluccas.

Sago in Sumatra.

Manufacture of Pearl Sago in Singapore by Chinese.

The Trade in Sago

Note on the mode of Growth and Productiveness of the Sago Tree

The Population of the Indian Archipelago, by *Spencer St. John*, Esq

Opium smoking, by *R. Little*, Esq.

Is the Opium Trade to China one in which a Christian Merchant can engage?

Mahomedanism in the Indian Archipelago.

Why have Mahomedan, been more successful than Christian Missionaries, in the Indian Archipelago?

The Truth and Power that are in Mahomedanism

Malay Amoks referred to Mahomedanism.

Malay Amoks and Piracies
What can we do to abolish them?
by *the Editor*.

An Essay on Coral Reefs as the

cause of the Fevers in various parts in the East, by *R Little*, Esq Surgeon.

The Slave Trade of the Indian Archipelago

BRITISH SETTLEMENTS IN THE STRAITS OF MALACCA.

Five days in Naning, with a walk to the Foot of Gunong Datu in Rambau, by *the Editor*.

The Agriculture of Singapore, by *J Crawford Esq F R S*

The Zoology of Singapore, by *T Oxley Esq*

MALAY PENINSULA, TENNASERIM &c.

A Journey in Johore, by the *Revd P Favre*, Apostolic Missionary, Malacca

Pawang, by the *Revd P. Favre*.

A Journey in the Menangkabau States of the Malay Peninsula, by the *Revd. P Favre*

Pulo Dinding

Rough Notes on the Geological and Geographical Characteristics of the Tennaserim Provinces, by *Edward Riley*, Esq

Revenue, Expences and Trade of Rhio

Sketches at the Nicobars.

A few particulars respecting the Nicobar Islands, by *Revd. J. M. Chopard*, Missionary Apostolic

SIAM.

Analysis of the Ancient Annals of Siam

COCHIN CHINA.

Funeral of the late King of Cochin China,

SUMATRA.

A General Sketch of Sumatra, by *the Editor*

The Battas of Mandheling and Pertibi, by *T J. Willer*, Esq.
The Orang Komring.

BORNEO.

The Mythology of the Dyaks, by the *Revd. J. F. Becker*, missionary on the south coast of Borneo

Mr Burn's Travels in the interior of Borneo Proper.

The Kayans of the North-West of Borneo, by *Robert Burns, Esq.*

A Vocabulary of the Kayan Language of the North-west coast of Borneo, by *it Burns, Esq.*

Letters from the Interior of Borneo (West Coast) No. IV.

The Sarawak Fleet.

Sir James Brooke's Expedition against the Sarebas Pirates

Destruction of the Fleet of the Sarebas and Sakarran Pirates.

SULU.

Sulu.

An account of Sulu.

JAVA.

Notes on the Population of Java by *John Crawford, Esq F.R.S.*

Tour from Sourabaya, through Kediri, Blitar, Antang, Malang and Pesuruan, back to Sourabaya, by *Jonathan Rigg Esq* Member of the Batavian Society.

BALI.

Mr. Freiderich's Researches in Bali.

The Language and Literature of Bali, by *M. Freiderich.*

CELEBES.

A Contribution to the Ichthyology of Celebes, by *Dr Bleeker*
The Tortoise Shell of Celebes.

MOLUCCAS.

The Molucca Islands.

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THE
JOURNAL
OF THE
THE INDIAN ARCHIPELAGO
AND
EASTERN ASIA

ON THE LEADING CHARACTERISTICS OF THE PAPUAN, AUSTRALIAN, AND MALAYU-POLYNESIAN NATIONS.

By G. WINDSOR EARL, Esqre. M. R. A. S.

NO. I.

THE existence of a Negro race in the Indian Archipelago, so remote from the continent which is considered as the original seat of the race, has given rise to endless speculations as to how they got there, and probably will continue so to do until the end of time, for, being a nation without a written language, and surrounded by others whose records are carried back to no very distant date, and whose traditions have become, from lapse of time, mere fables, this point can only rest upon circumstantial evidence, and therefore will ever prove liable to dispute. Their position in many of the larger islands, as occupants solely of the mountain fastnesses, surrounded by people who evidently belong to a distinct race, has certainly put an end to those theories of the last century which attributed their origin to the shipwrecked crews of Arabian slave-vessels, and has led to a very general opinion that they were, in fact, the aboriginal inhabitants of the countries in which they are found. That their existence was not altogether unknown to the ancients is proved by the maps and writings of Ptolemy, the Alexandrian, who flourished soon after the commencement of the Christian era, and was the first to reduce geography to a system. In the last map of his volume, that which contains the "Aurea Chersonesus" and the "Jabados Insula," (supposed to have meant

respectively the Malayan Peninsula or Sumatra and the Java Islands) he places a country far to the eastward of the Aurea Chersonesus, under the equinoctial line, which he states to be occupied by "Æthiopes Ichthyophagi," or "Negro fish-eaters;" the first term being that employed by the Romans to distinguish the black and woolly-haired Africans from the Mauritanians and other brown races of the coast; and the second, that usually applied to all nations who derived a portion of their subsistence from the sea.* The position of this country with regard to the Aurea Chersonesus agrees well with that of New Guinea, the great seat of the Papuan race. The existence of a negro people, at so remote a spot, which he must have learned from the information of Indian navigators, seems, indeed, to have led Ptolemy into the great error of his system, for believing that the country of the "Æthiopes Ichthyophagi" formed part of the continent of Asia, he has made that continent, in his general map of the world, come round by the south and join the African continent about Point Prassum, in latitude 15° S. (the then southern known limit of the east coast of Africa), thus making the Indian Ocean and the seas of the Eastern Archipelago, form one vast Inland Sea.

The most striking peculiarity of the Oriental negroes consists in their frizzled or woolly hair. This, however, does not spread over the surface of the head as is usual with the negroes of western Africa, but grows in small tufts, the hairs which form each tuft keeping separate from the rest, and twisting round each other, until, if allowed to grow, they form a spiral ringlet. Many of the tribes, especially those who occupy the interior parts of islands whose coasts are occupied by more civilized races from whom cutting instruments can be obtained, keep the hair closely cropped. The tufts then assume the form of little knobs, about the size of a large pea, giving the head a very singular appearance, which has, not inaptly, been compared with that of an old worn-out shoe-brush. Others again, more especially the natives of the south coast of New Guinea, and the islands of Torres Strait, troubled with such an obstinate description of hair, yet admiring the ringlets as a head dress, cut them off and twist them into skull caps made of matting, thus forming very compact wigs. But it is among the natives of the north coast of New Guinea, and of some of the adjacent island,

* The system of naming nations from the food which formed their chief means of support, seems to have been very prevalent among the ancients; witness "Hippophagi" the horse eating (Tartars,) "Lotophagi," Lotus-eaters &c. This system, although not to be recommended at the present day, has proved highly useful, for these names are sometimes found to contain the only existing description of the habits of the people on whom they were conferred, as in the present instance. Dr Leichhardt in his late overland journey from Sydney to Port Essington, found some tribes of genuine Lotophagi on the lagoons of the table-land, as will come to be noticed below.

of the Pacific, that the hair receives the greatest attention. These open out the ringlets by mean of a bambu comb, shaped like an eel-spear, with numerous prongs spreading out laterally, which operation produces an enormous bushy head of hair which has procured them the name of "Mop-headed Papuans." Among the natives of the Feejee islands, (the easternmost limit of the Oriental negro race) the operation of dressing the hair occupies the greater part of a day.

The hair of the beards and whiskers, which generally grows very thick and bushy, is arranged in little tufts similar to those of the head, and the same peculiarity is found to exist in the hair with which the breasts and shoulders of the men are often covered, but the tufts are here farther apart than on the head and chin.

This woolly or twisted hair is peculiar to the full blooded Papuans. A comparatively slight mixture with the brown-complexioned or Malayu-Polynesian race appears to destroy the peculiarity. The hair of people of the mixed race covers the surface of the head, or at least has done so in all cases that have come under my observation, and is sometimes only slightly curled. It is therefore very easy to distinguish the *pure* Papuans, and throughout this essay those only will be called by that name who possess this their leading characteristic.

[The term Papuan is derived from a Malayan word "Papua or Pua-Pua", *crisp-haired*. The term "Tanna Papua" or "Land of the crisp-haired" is applied by them not only to New Guinea, but to all the adjacent islands which are occupied exclusively by this race. It is so peculiarly applicable, and comprehensive, and so entitled to respect as having been conferred by a people who must have known them for ages before we even heard of their existence, that I trust the ethnologists of Europe will excuse me for retaining it in preference to the newly invented term "Melanesian" or "inhabitants of the black islands", which, although applicable enough to the Papuans, is equally applicable to the greater portion of the Australian tribes.]

The features of the Papuans have a decidedly negro character; broad, flat, noses; thick lips; receding foreheads and chins; and that turbid colour of what should be the *white* of the eye which gives to the countenance a peculiar sinister expression. Their complexion is universally a deep chocolate colour, sometimes closely approaching to black, but certainly a few shades lighter than the deep black that it often met with among the negro tribes of Africa.

With regard to stature, a great difference is found to exist between various tribes, even in New Guinea, and which has led to much confusion in the descriptions given by travellers, who have, perhaps, each only seen a single tribe. On the south-west coast of New Guinea, within a space of one hundred miles, are to be found tribes whose stature is almost gigantic, and others whose proportions are so diminutive as almost to entitle them to the appellation of pigmies, while the manners and customs of each so exactly cor-

respond as to preclude the supposition that these peculiarities can be other than accidental.† It is difficult to account for these peculiarities, but as the stout and stalwart Papuans are met with only among those coast tribes who have maintained their independence, and at the same time have acquired many of the agricultural and mechanical arts from their neighbours the Malayu-Polynesians while the pignies are found only in spots where they have been driven to the mountain fastnesses, or have fallen under the influence of other races, we may conclude that their mode of life has much to do with this difference in point of stature and proportions.

With regard to form the various tribes of Papuans differ as much as in stature. The more diminutive tribes, whose members chiefly come under the notice of Europeans from their existing in great numbers as slaves throughout the Moluccas, are unprepossessing enough in appearance when in their natural state, but when under good masters, the regularity and wholesome nature of their diet, coupled with their apparent utter forgetfulness of their native land, produce a roundness in their neat clean limbs, and a sprightliness of action which is rarely met with among their more civilized neighbours the Malayu-Polynesians. On the other hand the larger Papuans are more remarkable for their strength than their symmetry. They have broad shoulders and deep chests, but a deficiency is generally found about the lower extremities, the splay feet and curved shins of the western Africans, being equally, or even more common among, whom I may be allowed to term, the gigantic Papuans.

With regard to the general disposition of the Papuans, a great difference is found between those living in a state of independence, and those who exist in bondage among the neighbouring nations. The former are invariably found to be treacherous and revengeful, and even those who have long been accustomed to intercourse with strangers, the tribes of the northwest coast of New Guinea, for example, are never to be depended upon, and the greatest precautions are always taken by those who visit them for purposes of trade. The wilder tribes generally avoid intercourse with strangers, if the force which lands is sufficiently great to cause alarm, but if otherwise they pretend friendship until an opportunity occurs, when they make a sudden and ferocious attack. But what distinguishes them most from their neighbours the Malayu-Polynesians, and even from the Australians, is the unextinguishable hatred they bear towards those who attempt to settle in their territory, and which is continued as long as a man of the tribe exists. It is, probably, this perfectly untameable nature that has led to their utter extermination in all those islands of the Indian Archipelago that did not possess mountain fastnesses to which they could retire to lead a life similar to that of

† The celebrated philologist, Marsden, has adopted the term "Negrito" or "little Negro" from the Spaniards of the Philippines, and has applied it to the entire race.

the Boschmen of South Africa. We have had recent instances of this in Van Diemens land, Melville island (N. W. coast of Australia) and at Fort Du Bus on the west coast of New Guinea, in all which settlements the country was occupied by a pure or nearly pure Papuan race. In the former, hostility was confined as long a native remained on the island, and in the two last until the settlements were abandoned in despair. On the other hand, their neighbours, the Australians, have invariably submitted after a single trial of strength, while the Malayu-Polynesians, when not under the influence of other foreigners, have always evinced a desire to have strangers, especially Europeans, settled among them, as shown by the people of the Moluccas when first visited by the Portuguese, and as displayed at the present time in those remote parts of the Indian Archipelago where the race maintains its ancient purity.

The untameable ferocity of the Papuans only exists as long as they remain in their native country. On leaving it their character seems totally changed, as far as regards this particular. The Papuan slaves who exist in great numbers in the eastern parts of the Archipelago are remarkable for their cheerful disposition and industrious habits, and nothing could exceed the orderly conduct of the remnant of the Van Dieman's Land natives after they had been hunted down, and removed to an island in Bass' Strait.

Before proceeding to describe the localities in which the Papuan race is now found, I think it proper to allude to certain of their customs which distinguish them from the Malayu-Polynesians, and which certainly are of Papuan, or at least of Negro, origin. One of these is the custom of raising the skin in cicatrices over various parts of the body, especially on the shoulders, breast, buttocks, and thighs. This must not be confounded with the tatooing or puncturing the skin which is practised by many of the Malayu-Polynesian tribes, and which is never met with among the Papuans, as the scarifications which I am about to describe are unknown to the others. The skin is cut *through* with some sharp instrument in longitudinal stripes, and, if on the shoulder or breast, white clay, or some other substance, is rubbed into the wound, which causes the flesh below to rise, and these scarifications, when allowed to heal, assume the form of raised cicatrices, often as large as the finger. The process by which these cicatrices are produced and which I have had opportunities of watching in their progress from day to day until duly formed, is perfectly inexplicable to an European, who would be thrown into a fever by any one of the wounds which these strange people bear, two or three at a time, without complaining, but certainly not without suffering. It is, however, quite evident that the Papuans, and also the Australians, as will be mentioned below, possess a callousness of skin, or insensibility of pain, which is quite unknown among more civilized races.

Boring the septum of the nose is universally practiced among the Papuans. In the first instance they wear a roll of plantain

leaf in the orifice which by its elasticity enlarges it to a sufficient size to admit the thigh bone of a large bird, or some other ornament, which is then worn extending across the face on all great occasions. Our sailors have a very quaint name for this practice, which often comes under their observation among the Papuan islands of the Pacific; they call it "sprit-sail yarding," after a cruel method they have of treating sharks and dog fish, which are frequently let go after having been hooked, a piece of wood being previously thrust through their nostrils, which projecting on either side, prevents them from getting their heads under water, and they die a lingering and painful death. I have never met with, or heard of, this practice of boring the nose among people of the Malayu-Polynesian race, and I may say the same with regard to the scarifications mentioned above. The latter, or rather those among them who are sufficiently barbarous to resort to personal disfigurement, seem to have adopted tattooing and boring the ears in lieu of the more coarse and painful ornamental work of the Papuans.

Filing or grinding down the front teeth until they become pointed is practiced by some of the tribes of New Guinea and of the adjacent islands of the Pacific. This custom however, is not confined exclusively to the Papuans, as it is practised also at the Pagi islands, on the west coast of Sumatra, the natives of which appear to be Malayu-Polynesians. This custom must not be confounded with one which is common among many of the Malayan and Bugis tribes, that of grinding down the front teeth until they become almost level with the gum.

Another singular custom which is only met with among the Papuans, or the tribes closely bordering on them, is that of dyeing the hair (which is naturally black) a reddish or flaxen colour, by using applications of burnt coral and sea-water in some instances, and preparations of wood ashes in others. This process seems to expel all the dark colour from the hair, leaving it a flaxen tinge which appears to bear a close resemblance to the celebrated "*capillus flavus*" so much admired among the Roman ladies and which seems to have been produced by a similar process. The only Malayu-Polynesians that I have known to practice this custom are some of the natives of Timor Laut, Sermattan, and Baba, (islands lying to the westward of New Guinea and not very remote.) I am therefore induced to consider it as a Papuan, or rather, perhaps, as a "Negro" custom, for it is equally prevalent in many parts of Africa, especially among the Soumaulis, and other tribes in their neighbourhood. Travellers who have had opportunities of visiting our post at Aden in the course of their voyages between Europe and India by the overland route, may have observed this custom among the African coolies employed in coaling the steamer, who some times appear with the plaster of coral still attached to their heads.

The Papuans, for the most part, exist only in a savage state, deriving a scanty subsistence from the productions of nature, living

in conical shaped huts; or where they appear as occupants of the sea coast, roaming about in small canoes in search of food. Some of the more *independent* tribes, by which I mean those who have exclusive possession of the country they inhabit, have, however, adopted many improvements. In several parts of the north and of the south coasts of New Guinea, the villages consist of one large house, erected on piles, and occupied by all the married people, with a smaller one adjacent for the bachelors. These houses bear a very close resemblance to those of the Dyaks of Borneo, but are smaller and of more rough construction. Here the Papuans also cultivate fruits, yams, and sweet potatoes, and keep hogs and poultry to kill for food, in fact are almost on a level, as far as regards agriculture, with the more uncivilized tribes of the Malayu-Polynesians, from whom, indeed, if we may judge from the names employed to designate their agricultural productions, they have derived this slight, but important advance they have made in civilization.

The weapons of the Papuans are heavy wooden clubs, spears or lances of *nibong* or other hard wood, and darts formed of a small kind of bambu, provided with points of hard wood or of sharpened bone. The lances are projected generally by means of a becket of semmit about a foot and a half long, one end of which is provided with a toggle. This is held between the fingers, while the other end is fastened to the lance with what sailors call a "half-hitch" knot, which flies off when the lance is projected, thus allowing it to go free. The becket gives a greatly increased purchase to the thrower, but is much inferior in this respect to the *womera* or "throwing stick" of the Australians, which will be described when we come to speak of that people. The darts are projected by means of a powerful bow, often six feet in length, with a bow-string of rattan. I suspect that this instrument was not originally Papuan, but has been adopted from the Polynesians. Stone axes, and knives of quartz are now superseded among all those tribes who have either direct or indirect communication with the traders of the Archipelago, by Parangs, or Chopping-knives of iron. Their agricultural instruments are mere stakes of wood, sharpened at one end, which prove sufficient to effect the rude interference with nature required by their mode of cultivation.

The art of navigation appears never to have been in a very advanced state among the Papuans, since their navigation has only extended to those countries which could be reached from the continent of Asia without entailing the necessity of going out of sight of land, nor are they yet sufficiently advanced in the science of navigation to venture on any other than coasting voyages. Towards the eastern limits of the Papuan race, where they come in close contact, and are often mixed with the Polynesians, navigation is in a more advanced state than elsewhere, but this is evidently the result of contact with strangers, by whom, indeed the navigation is personally conducted.

The highest state of the art among the Papuans, without foreign assistance, is met with in Torres Strait and upon the South coast of New Guinea. Here they possess large canoes of such construction and propelled in so peculiar a manner, that we must consider them purely Papuan. Some very excellent sketches of these canoes are given in Flinders's voyage, with so full a description that it will be unnecessary for me to enter into minute particulars. These canoes or boats are from thirty to forty feet long, and the planks with which they are constructed are sewed together with the fibres of the cocoanut. Each is provided with an outrigger, and a platform of bamboo occupies the centre of the boat on a level with the gunwale. They are propelled in calm weather by paddles with long handles, the rowers all standing, as is generally the case among the Papuans. But the most striking peculiarity of these vessels consists in the sail, which is an oblong piece of matting set up in the fore part of vessel by means of two poles or masts, to which the upper corners of the sail are fastened. These masts are moveable, and the sail is trimmed by shifting the head of one of the masts aft. According to my experience these boats sail very indifferently, except before the wind, but Captain Flinders, who had good opportunities of judging, maintains a more favorable opinion. They are often to be met with about the month of March three four or hundred miles down the North-East coast of Australia, the islanders being in the habit of making an annual voyage in this direction. The stopping places are usually the islands lying off the coast, where they obtain tortoise-shell and trepang, the chief objects of their voyages.

The natives of the south coast of New Guinea have very large canoes of a similar but more unweildy construction, and propelled by a similar description of sail. These have never been seen far from the coast, and in fact are almost unmanageable from the difficulty experienced in steering such unweildy masses with paddles alone. It is therefore difficult to conceive for what purpose they have been constructed, unless it should be for war, in which case their large size would give them an imposing appearance.

The New Guinea canoes generally are of light construction and are provided with an outrigger. The larger ones have an *attap* roof and are capable of containing an entire family, with household furniture and domestic animals.

REMARKS ON DR. LITTLE'S "ESSAY ON CORAL REEFS AS THE
CAUSES OF FEVER."

It would be a laborious task to follow Dr. Little's "Essay on Coral reefs as the cause of fever" through the innumerable topics on which it touches, or the endless details into which it enters, and I shall therefore content myself with making some general exceptions, and pointing out, in particular, the errors it contains in regard to Labuan as an example in support of this new hypothesis,—if it can so be called.

Containing some interesting, but non-pertinent matter, the first fifty pages of this Essay are devoted to the proof that Singapore is healthy ;—the next thirty pages go to establish the fact that one small village (Ayer Bandera) on the small island of Blakang Mati* is ravaged by a severe type of remittent fever, and that the other small villages on the same small island, and the villages, (with a few exceptions,) on the numerous adjacent islands, are not subject to this scourge ; whilst the last thirty pages contain examples, in other places, of the influence of coral reefs in producing a remittent fever, "the symptoms and result" of which are "*identical*" with the remittents caused by the action of marsh miasm.

The following propositions scattered throughout this long essay, we shall give as nearly as possible in the Doctor's own words, and they may assist the reader in arriving at a right understanding of this new theory, and how far it is supported by facts.

1st Malarious influence is generated in fresh water swamps, as at Siglap.

2nd "That *wherever* coral reefs are exposed, fever, *especially remittent fever*, will be endemic on that spot."

3rd "That mere proximity to a coral reef does not necessarily imply that the locality is obnoxious to fever, as the interposition of high land or a belt of trees (or other causes) may act as an effectual barrier."

4th. "That effluvia from dead animal matter in a state of decomposition are eminently unhealthy, and that in the absence of all other causes the coral reef in front of Ayer Bandera is the cause of the endemic remittent."

5th That wherever a coral reef is exposed at low water, animal decomposition will go on to an extent proportioned to the size of the reef, and malaria will be the result of this decomposition.†

It need only be remarked on these propositions, that the third proposition annihilates, if it does not contradict, the second ;—that the fourth proposition is illogical, as it assumes the absence of all other causes of fever excepting the one named, and that by the fifth

* Blakang Mati Dr. Little translates arbitrarily and practically "behind the place of death" whereas it simply means "dead behind" or at the back part. **How** Dr. Little noticed the dead trees at the back of the island

† J. I. A. Vol. II. p. 589.

proposition, if not diluted by the third, the reader will be able to test the malarious influence exercised by Coral reefs in general. There is one other point however, to which I must direct particular attention, as it materially modifies the theory under consideration, and shows on what sort of foundation it rests. "The reef (writes Dr. L.) attached to Blakang Mati, whose influence is felt by those living at Ayer Bandera, is of a triangular shape, the sides of the triangle not being less than half a mile" and from this reef to Kampong Kopit is a distance of half a mile, *which distance Dr. Little considered sufficient to secure the inhabitants for the influence of the reef.* He could not in reason, attribute their safety at Kampong Kopit to the small quantity of coral exposed there, and he did attribute it, to the distance of half a mile which intervenes between the coral reef and the village of Kopit.*

By the general application of these propositions the theory advanced by Dr. Little must stand or fall, and it is almost needless to observe that a few exceptional cases will not support a theory which embraces a large portion of the globe, and which must demonstrate the effect of exposed coral reefs, upon some millions of our fellow men.

Leibig defines contagion and miasm as follows:—"If the matter (he writes) undergoing decomposition is the product of a disease, it is called contagion; but if it is a product of the decay or putrefaction of animal or vegetable substances, or if it acts by its chemical properties (not by the state in which it is) and therefore enters into combination with parts of the body or cause their decomposition, it is termed miasm."

Dr. Little it is evident asserts the same thing in a round about way, and the product of his new theory on Coral reefs is, that miasm generated from animal decomposition gives rise to fever—not from its being a Coral reef, but from the amount of animal putrefaction! Now I am willing to grant the fact that decomposing animal matter, on coral reefs, *or anywhere else*, in confined situations, and under particular circumstances, will generate miasm, but what is gained by the admission of a well known fact, which is as applicable to a slaughter house or to a heap of rotten German sausages, either of which causes would produce the same result as a coral reef, *exactly in proportion to the amount of animal decomposition* which poisons the surrounding atmosphere. It would certainly be as reasonable to write an Essay on German sausages as the cause of fever; for miasm is generated, and fever produced, not from a coral reef, or a German sausage, but from animal decomposition, and animal decomposition alone, and without animal decomposition the fever would not be present, either with fresh German sausages or a *wave swept* coral reef.

* That is—animal decomposition will be in proportion to the size of the reef, and malaria in proportion to animal decomposition—malaria is the result of a small as well as a large reef.

I must therefore differ from Dr. Little's second proposition "that *wherever* coral reefs are exposed, fever especially remittent fever, will be endemic on the spot", and maintain, on the contrary, that an exposed coral reef may be perfectly harmless, and that the evil results, not from the coral reef, as a coral reef, but from the animal decomposition which takes place on it, and that the same cause under peculiar circumstances will produce fever *any where and every where* else.

Although Dr. Little's theory appears to me to resolve itself into a well known and established fact, yet it will be satisfactory on a large scale to trace the influence of coral reefs, and thence to arrive at a conclusion, how far, under ordinary circumstances, the animal decomposition which may take place on them, affects the health of the population living in their vicinity. Before entering on this subject, however, I must examine some of Dr. Little's examples in support of his hypothesis, and the conclusions to be drawn from his personal researches, and Dr. Little will excuse me for saying, that the general influence of coral reefs as a cause of fever, must rest on better grounds than his microscopic investigations, loose native testimony, or the testimony of superficial observers unaccustomed to scientific enquiry. Dr. Little proves himself that the evil consequences produced by animal decomposition on coral reefs is of *very limited extent*—we have already stated that in his opinion the miasm in a confined harbour, did not extend half a mile, and although fever occurred in some land-locked localities having a quantity of decaying animal matter close to them, yet the greater number of islands, removed from these places by very short distances, were free from disease and might be considered healthy. If however Dr. Little's personal inspection produces such minute, and unsatisfactory results, what can be said for the examples he adduces in support of his favorite theory.

Pulo Tingy has a low shelving reef exposed at low water, opposite to a village—there is no barrier to prevent the full development of the evil effects of decomposing animal matter on the coral reef, and yet the inhabitants are subject to fever and ague only—in spite of Dr. Little's dictum "that wherever coral reefs are exposed, fever, *especially remittent fever*, will be endemic on the spot." On an island covered, as it is stated, with primitive forest, will not the exposure of decaying wood and vegetable matter to heat and moisture, account for intermittent fever, without resorting to the coral reef animal decomposition theory? The example of Pulo Aor rests on native testimony alone, and your readers (as well as the Doctor himself) know full well how utterly unsatisfactory and vague, such authority is. Can any theory be built on such a flimsy base? How unsupported is the presumption of the absence of other causes to account for the fever on Pulo Aor!

Pulo Laut is a similar example to Pulo Aor, and Banka may be especially selected as a specimen of Dr Little's mode of reasoning "I do not know (he writes) the extent of the coral formation, but that there is coral there, we know" and "to that coral I would attribute the unhealthiness of Port Nugent."

Dr Little, *knowing nothing about the matter*—ignorant whether the coral reefs are exposed, or ten fathom under water, attributes the sickness as his favorite theory requires, in spite of the opinion of medical men on the spot. *In this instance there is not a pretence of the fact being established on which a conclusion is built!!*

Batavia Roads, as an example in point, we shall endeavour to dispose of as quickly as we can. The miasm generated by vegetable decomposition is allowed to produce the remittent fever peculiar to the place, in and about the town, but Dr Little asks "is the endemic remittent fever of the island, and harbour of Batavia, to be attributed to the same cause as that of the town?"

I answer that where one cause is sufficient to account for fever, the symptoms and result being "*identical*", it is superfluous to adduce a second non-distinguishable cause—and yet there are three other causes stated without reference to coral!

2. That the difference of miasmatic intensity observed occasionally in the town, and harbour, proves only that at particular times, miasm preponderates in one locality more than in another.

3. That the removal of fever patients and others previously exposed to miasm, from Onrust to Edam, proves nothing, or if it proves Edam to be unhealthy, it will prove Singapore to be unhealthy in the same manner.

4. Whatever any have been or is the condition of Edam, we gather from Mr Leisk's testimony that there are no exposed coral reefs, as he mentions none in the vicinity of the island. "It is (he says) a low coral reef with a detached coral patch to the northward of it; (I am not certain whether this patch is ever dry) the island is covered with trees and bushes but I never saw a swamp on it; it appeared to me to be dry, the soil consisting of a mixture of coral, other stones and coral sand. I have been on it twice, but *never found any disagreeable smell more than on other coral islands.*"

Labuan Triang in Lombok, a land-locked harbour, may be affected by the animal decomposition going on amid coral reefs and mud banks, but the mangrove trees seem to interpose no kind of barrier. The fever of Ampanan is attributed by Dr. Little to the paddy fields in the vicinity, and another port called Pedgue (which abounds with coral) on the authority of one witness is considered unhealthy, but considered healthy by a second witness, who has resided there for some time. As a general result I conclude that in proportion to the extent of exposed coral reefs, about Lom-

bok and Bali, the amount of fever (as stated to arise from that cause) is very trifling, and found in land-locked harbours, where air stagnates, and where heat and moisture exert their fullest influence on decaying vegetable matter.

Of Bimah in Sumbawa, Captain Knudson writes "this port is a complete basin, shut up all round by very high mountains. Lining the bay are *extensive mud flats, giving the most offensive odours possible*, being exposed to most intense rays of the sun. In the bay there are likewise large oyster beds and coral reefs.* *During the middle of the day the heat is so severe that it is scarcely possible to breathe, when all of a sudden a cold blast from the mountains will make a circuit of the bay, and those who are exposed to it invariably suffer from headaches.*" Thus at Bimah we have stinking mud flats, chilly mountain blasts alternating with intense heat, quantities of putrid fish, damp situation, dense vapours, and brackish water, to account for fever without being driven to the necessity of attributing it to doubtful coral reefs.

During the S. E. monsoon "the evenings are extremely hot and sultry, until towards midnight, *when the cold land wind sets in which is so cool as to congeal the oil in the lamps*"!!

Would any rational man wish for better causes of fever?

Writing of Delli in the island of Timor, that excellent observer Mr. Earl, states, that there is an exposed coral reef within a third of a mile from the beach, and that "at the back of the town is a level plain, which during the westerly or rainy monsoon becomes a *fresh water marsh*; at other seasons it is dry except at certain spots *where the water is retained in lagoons or shallow ponds.*"

Here we have the elements of miasm, and Mr. Earl himself adds "I have hitherto considered that the fresh water swamps at the back of the town, coupled with the stagnation of the atmosphere were primary causes" (of fever). Captain Knudson says that the water *is very bad*, and surely all these causes combined will account for the unhealthiness of Delli, without including the influence of coral reefs. The Aru islands consist of "*fresh water swamps, and the jungle is so thick that it is seldom penetrated by the natives.*" There are likewise exposed coral reefs, and Dr. Little states that Captain Wolfe of the "Velocipede" was attacked with "the *usual fever* of coral localities."† Now according to Dr. Little's own statement, the symptoms and result of remittents caused by the miasm generated by animal decomposition, are identical with those produced by vegetable decay, and we should therefore like to learn how in this instance, the Doctor distinguishes the coral fever, from the swamp fever—both animal and vegetable causes of fever being present and "identical." Your readers will ere this be satisfied that of the examples brought forward in support of this theory, some are

* It is not stated whether exposed or covered.

† A climate is condemned and a theory supported on the fact of one lucky fever.

without foundation, some doubtful, some contrary to Dr. Little's axioms, and others where the fever can be accounted for by different and generally received causes. Passing over therefore one or two examples, (only remarking that at Sulu I saw no exposed coral reef within four miles, and it is doubtful whether any exist within a distance that could by possibility affect the health of the place,) I shall proceed at once to consider what is advanced in the essay respecting our new settlement of Labuan.

Here we join issue with the essayist on facts open to the observation of all, but before dealing with the reefs in the vicinity of the island, we must correct some of the statements advanced touching the island itself. In the first place, it is asserted that "the fresh water marsh is so limited and so protected from the sun's rays by high trees and jungle, that reasoning from analogy* I would say that it could exert very little influence in producing fever; if there had been paddy fields or cleared fresh water marshes to any extent, no doubt would have existed that they could occasion fever to those located near them, or to those at a distance when the wind blew over them." Now the fact is that *the plain* at Labuan is fully a mile in length with nearly half a mile in width. It is covered with low grass and is a fresh water swamp, with a foul muddy drain running through it, which in the S. W. monsoon is choked up by the sand thrown on the beach. This swamp extends the same length and for another half mile in depth into the jungle, where large quantities of fresh water lodge in deep holes; which during the rainy season overflow the plain and deposit masses of decomposing vegetable matter.

This fresh water swamp has been considered by every medical man, (excepting the one named by Dr Little,) as fully accounting for the remittent and intermittent fevers, which have prevailed during the three months of September, October and November, when the S. W. monsoon blows with great violence during the day, and is accompanied by rain.

Towards the end of November the N. E. monsoon sets in, the atmosphere loses its humidity, the swamp on the plain becomes dry, and the fever disappears, but during both seasons vessels anchor so close in, that there cannot be a doubt that the miasm occasionally reaches them.

As Dr Little adduces cases of fever which have occurred aboard the *Phlegethon* and *Nemesis*, I will likewise state some facts which are worthy his serious consideration, and I shall premise them, by asserting on the authority of the medical men who have resided on the spot, that the shipping during the fever season have been more healthy than the persons residing on the plain, and that most

* Reasoning from analogy,---I should wish ask to Dr. Little how he accounts for fever in high forest and dense jungle, for example the deadly jungle fever for some hundreds of miles at the foot of the Himalaya mountains.

of the officers attacked by fever had previously slept on shore.

Such was the case with the late surgeon of the Auckland, with the late Captain Charles Grey, with Mr Scott, with Captain Young, and with many others, and such likewise was the case with the marines of the *Mæander*.

That vessels lying *close off* a fresh water swamp should be more or less liable to fever, is scarcely to be wondered at, but when Dr Little brings forward the cases which occurred on board the *Nemesis*, he should have remembered, that the crew of that steamer, had recently been employed on a harassing river service, and that they had been exposed for fifteen days to sun, and rain, in open boats.

According to Dr Little's theory the vessels lying off Labuan should (being a quarter of a mile nearer to the reefs) have been more sickly or at least equally sickly, with persons living on the plain, but this conclusion is not borne out by the result, and we shall proceed to state facts which Dr Little must reconcile to his views—as best he can.

In 1845 the squadron under command of Sir Thomas Cochrane separated mid-way between Labuan and Moarra, and whilst the *Agincourt* and others, remained outside the latter island, the *Wolverine* and *Cruizer* proceeded to the former, and anchored in the creek, within one hundred yards of the beach. The two *Brigs* continued from the 5th to the 14th of August, with their crews daily ashore, exposed in cutting wood for the steamer, and yet *did not suffer at all from fever, though the prevailing southerly winds blew over the reefs* into the creek! I beg Dr Little particularly to remark however, that *though exposed to the reefs, this anchorage is protected from the miasm generated on the swampy plain by a belt of trees and jungle!!*

In 1846 the case was still stronger, at a later and more sickly season of the year, when the S. W. monsoon was at its height.

The *Agincourt* and *Iris*, were anchored about a quarter of a mile off the island of Moarra, the *Hazard* off Chermin,—the *Spiteful* and *Phlegethon* in the town of Brune, and the *Ringdove* wooding for the steamers in the creek at Labuan. The boats crews and marines of all these vessels (excepting those of the *Ringdove*) were employed on active service and very much exposed, and the consequence was that a remittent fever broke out; and all the ships suffered more or less *previously to visiting Labuan where the squadron only remained two days*. The *Agincourt* suffered most severely, but it is remarkable that the portion of the crew left aboard off Moarra, was likewise attacked by remittent fever before the return of the party on active service, and the island of Moarra, where fresh water swamps abound, but where there are no coral reefs, was condemned by the medical men as an unhealthy locality. Whilst however the crews of the vessels employed in active service, or anchored off Moarra, suffered from

fever, the Ringdove, commanded by Sir William Hoste, lying in the creek at Labuan, close to the shore, for twenty days to leeward of the reefs, but separated from the swampy plain by a belt of trees and jungle, and with her crew daily exposed in cutting wood, *did not suffer, or suffered very slightly, from fever!* Let Dr Little reconcile these facts with his theory; and though his humanity is to be applauded, it is difficult to conceive how under the circumstances, any suggestion could have prevented the loss of life which occurred from fever contracted from exposure on active service, or from the marsh miasm of the island of Moarra.

For want of space I must content myself with two other examples, which demonstrate in a striking manner, the cause whence the fever is derived.

The marines of the *Mæander* were landed at Labuan, whilst the vessel lay at anchor about a quarter of a mile from the barrack, which was a comfortable attap house.

The marines on shore suffered severely from fever, whilst the rest of the crew sleeping on board, though often hard at work, and exposed during the day on the plain, continued more healthy, and had but few cases of fever amongst them. Again, the schooner *Jolly Bachelor* with a crew of about fifteen men, was anchored some two hundred yards from the beach, and remained there very nearly the whole time the marines were ashore, and yet although the marines, out of thirty-two men, had at one time only six fit for duty, and lost about a dozen of their number, there were but few cases of fever, and only one death aboard the schooner, and it is remarkable that of the officers (who often slept ashore), three out of four were attacked by remittent fever, and the seaman whose case ended fatally had, it was known, slept ashore in the open air, a few nights before he was seized.

These are but a few out of many similar examples recorded by a person resident on the spot, and although not immediately pertinent to the subject under consideration, it is nevertheless worthy of notice, that no person of a respectable class in life has been carried off by fever ashore, and that the two officers who died from this low remittent sank after the use of the lancet.

Dr. Rimel, formerly surgeon of H. M. S. *Royalist*, who had more local experience than any other medical man, pronounced the fever of Labuan to be a light and not dangerous type of remittent, unless aggravated by superadded causes, and it is now fully allowed that depletion (even from leeches) is a dangerous and mostly fatal practice.

Having thus demonstrated that the swampy plain of Labuan will fully account for the fever prevalent there, and having submitted for Dr. Little's consideration some facts, strikingly contradictory to his hypothesis, I shall notice but one other assertion, before treating of the reefs around Labuan.

"It is not (writes Dr Little) during the rainy season that marsh miasm is in its greatest activity, but when the rains have ceased and the ground from evaporation becomes dryish. The contrary is the case with coral miasm, which is most active during the wet season."

In opposition to this new theory—or old theory revived—of the activity of miasms, I must refer Dr Little to Father Guiseppe's paper in the 2nd volume of the Asiatic Researches, and to thousands of living witnesses, for the fact, that it is death to remain in the vast forest tract at the foot of the Himalayas, after the commencement of the rainy season, as the frightful and fatal jungle fever immediately makes its appearance; and if this be not sufficient to convince, I must quote the following passage from Copeland's Medical Dictionary vol. II p. 351—which is quite decisive on the question:

"The miasm or mephitic vapours exhaled from the sources already enumerated (i. e. vegetable and animal decomposition &c.) are evidently suspended and rendered active by the *humidity of the atmosphere* in the situations in which they are disengaged; for it has been repeatedly shown that *these miasms are active in proportion to the grade of atmospheric humidity and to the circumstances which augment that humidity.*"

Surely Dr Little must allow after this, that the activity of miasm generated by vegetable, as well as animal decomposition, is alike increased by humidity, and as he cannot maintain that the atmosphere during the dry season, is more humid than during the wet season, he must confess, that in his eagerness to support a theory, he has overleaped facts, and overlooked the highest authority!*

That there are numerous reefs around Labuan is granted, and our present enquiry is as to the nature of these reefs, and the consequences to the health of the settlement which Dr Little asserts result from them.

I shall state briefly my personal observations after considerable experience, and refer to the authority of Sir Edward Belcher's chart, and the more finished chart of Captain Gordon, whereon every yard of sounding is laid down, and every exposed reef shaded according to its peculiar character. It must be premised however, that the large island called "Burong" in Sir Edward Belcher's chart, is really the island of Kuraman, and that the small islet named Ampac is the true Burong. Kuraman I have never visited, but there are rocks visible on approaching from the westward. The two islands of Rusakan are surrounded by reefs

* Will Dr Little inform your readers of the distinction between miasm generated from animal decomposition, and miasm arising from vegetable decomposition, or as he calls it marsh miasm and coral miasm. The fever from either is of the same character, the symptoms "identical"—how then are we to distinguish the vapours?

exposed in whole, or in part at low water and these reefs are composed of sand, and coral debris, with patches of rocky ground. Burong is a steep islet, covered with wood, and in sailing very often near it, I never saw any exposed reef in its vicinity, whilst the bay within Burong is shoal and rocky.

Having thus enumerated the islands and reefs to the westward of the anchorage, I must refer your readers to the chart of Captain Gordon, which only differs from that of Sir Edward Belcher in being far more minute and finished.

By a reference to this chart it will be clear that the nearest point of Kuraman, and the nearest Rusakan are *six miles distant* from the harbour of Labuan; that the exposed reefs to the Westward of the former, as well as the latter, are rocky, with patches of sand, and that though these islands are surrounded by coral reefs, they are all under water, at depths varying from 5 to 2 fathoms. Burong is steep to all round, excepting to the northward where there is marked a *very small patch of sand*, and the Bay within is choked by an extensive fringing reef of rock. Burong likewise is three miles in a straight line from the anchorage, and nearly two miles from the islet of Ino, or as written on the chart Ennoe.

It may be decided therefore as matter of fact, that there are no exposed coral reefs to the westward of the Bay; that the distance would protect the town from their influence, supposing their existence, and I may add, that no wind from these islands could reach the usual anchorage, without blowing over a jungle covered hill!

Within the harbour, or immediately contiguous to it, is firstly the reef extending from the outside of Ino, or Ennoe, to the main shore at Point Hamilton, and thence fringing the left hand side of the creek. This reef is in whole or in part exposed at low water, and is *distinctly marked* in Captain Gordon's survey as composed of rock and sand, and my own impression, after being on this reef a dozen times or more, fully bears out the correctness of the chart. The island of Pappan, in like manner, has a small sandy beach, and on the S. E. side a rocky reef of inconsiderable extent, and between Pappan and Daat, large boulders of sandstone are visible at low water, but I am not aware that this reef is further exposed, or that there are any other reefs, to be seen at any time of tide within it, and I may add, that there are channels for vessels of burden through these masses of sandstone. Neither of the charts go beyond this reef, but Captain Gordon has occasional soundings *immediately* within it of three and two fathoms; and according to Dr Little's theory, supposing this to be as deadly a coral reef as his fancy could pourtray, it could have no evil effect on the health of the settlement, as the prevailing winds from S. to S.W. blow over the opposite direction, and it would require a wind to the Eastward of S.E., to waft the imaginary effluvia in the direction of the anchorage. It must likewise be borne in mind that the distance of

the nearest point of this reef, is double the distance of Dr Little's limit of safety.

The evidence is therefore complete from a survey, as elaborate as that of the British Channel, that no exposed coral reef, is as yet known in the vicinity of Labuan; and that not a single assertion advanced by Dr Little on hearsay evidence, is consistent with the facts established by Captain Gordon's chart, by the silence of Sir Edward Belcher on the subject, and by the personal observations of many residents on the island.

Your readers, and probably Dr Little himself, will be now satisfied on this point, and entertain a conviction, that when such a mistake could occur on ground so well known, and so accurately surveyed, the other examples brought forward to support this theory, are utterly fallacious and valueless, and before concluding this portion of my task, I would request Dr Little to reconcile with his theory the two following cases—not taken upon doubtful testimony, but resting on the observations of British naval officers and in one instance confirmed by personal experience.

1st, "Raines islet" (near the Barrier reefs) is 1,000 yards long by 500 wide and in no part more than 20 feet above high water mark,* so writes Mr Jukes, and he adds "it is surrounded by a coral reef that is narrow on the lee side, but *to windward*, or towards the East, stretches out for nearly two miles. The surface of this reef is nearly all dry at low water."

On this islet nevertheless, Captain Blackwood erected an observatory, and during his long continued and arduous survey, parties were constantly on shore for a length of time, sleeping in tents, or huts, and but little protected from the weather. Yet the crew of the Fly did not suffer, and no mention is made of any fever cases amongst them. Here then a large coral reef, exposed at low water, and situated *to windward* of a low islet, produced no bad effects upon the health of those residing close to it.

On the same authority, the same may be said of Murray, Darnley and other islands situated in a smooth sea within the Barrier, which are surrounded by exposed coral reefs, the natives of which are nevertheless a healthy and stout race.

2nd, Sirhassan, an island of the Southern Natuna group, has a broad fringing coral reef, in many parts a mile in width, extending ten miles along its Southern and western shores; the deep bight, within which the town is situated, is choked with coral patches, and there is a large coral reef called Karang Hadji near the small island of Brian, two and a quarter miles from the shore of the main island.†

All these reefs, are exposed in whole or in part at low water,‡

* Lat. 11° 38' Long. 144° 6'—vide Voyage of H. M. S. Fly. Let the reader bear in mind the masses of exposed coral within the barrier.

† From Captain Gordon's minute survey.

‡ A ship's cutter grounds at the outer edge of the fringing reef at low water.

and yet the island is healthy and is not exposed as it ought to be to endemic remittents. It must be stated likewise that there are hills behind the town to prevent the escape of miasm.

Sobi, another large island of the same group, though surrounded by coral, is probably as healthy as Sirhassan, and in the Bay of Boni in Celebes, from its entrance, to Luwu, the exposed coral reefs are numerous, and extensive, without producing any of the frightful consequences attributed to them.

Dr Little's theory however must be tested amid the vast expanse of the Pacific Ocean, amid the Barrier reefs and Torres Straits, called by Flinders the Coralian sea, and amid the Atolls of the Maldive, Laccadive, and Chagos Archipelagoes. There we behold coral reefs in every stage, covering such vast areas, that if they exercised the same malarious influence, that a small reef exercises on Blakang Mati, human life must long ago have been extinct, and the remains of the victims of coral fever, must have strewn the inhospitable shores of thousands of islands.

Such must have been the result, for no race of men could have survived amid an atmosphere poisoned for hundreds of miles around, by miasm generated "in proportion to the extent of the reefs"—where remittent fever was ever endemic and intense, and where the unceasing labours of myriads on myriads of polyps were advancing the destruction of the human race.

It will be in vain to urge that this place is slightly unhealthy, or another place causes fever amongst Europeans—that there are remittents here—or intermittents there.* No! If coral reefs—as

* It will be equally vain to urge the climate as modifying the effects of reefs, as my remarks are confined to countries within the Tropics. The Marquesas group is in 9° S. The Radack and Scarborough Groups from 12° N. to the Equator, Torres Straits 10° S., Disappointment islands with their vast reefs 14° S. &c. &c. &c.

I will take Tahiti however in 17° S. as one of the coolest from situation of the islands of the Pacific within the Tropics. The climate according to Ellis is moist, equable and debilitating for Europeans—between April and August the thermometer ranged at noon from 75° to 84°—giving a mean of 79° 5, and sometimes it rises much higher than 90°.

The mean of the thermometer on Captain Fitzroy's authority from the 19th November to the 8th December at 10 A. M. was 78° 45 thus exactly agreeing with Ellis.

This is one of the coolest islands, abounding with exposed coral reefs broiling under a tropical sun.

At the Marquesas some observations were made which gave in the shade 86.5. The suns says partially obscured—103—vide Sir Edward Belcher's voyage round the world—vol. 2-p. 380.

The mean of the thermometer in Singapore for the month of June 1848—was 82° 43.

At Sarawak in the years 1844 and 1845, the mean during the day was as follows for the months of November and December:

1844	
November	80.83
December	81.00
1845	
November	81.10
December	80.75

Thus the climate of the Pacific may be reckoned as nearly as possible of the same temperature as that of the Eastern Archipelago.

The Red Sea is filling up with coral, (vide Lyell) the navigation dangerous from

coral reefs, or from the animal decomposition which *necessarily* takes place when they are exposed, produce the consequences stated, we shall have fever and death wholesale on recent coral islands, and depopulation on those of older formation, for we must apply Dr Little's own axiom to exposed reefs, hundreds of miles in extent, and by his own axiom judge their influence on life, and test the soundness of his hypothesis. Dr Little lays down as a rule "*that wherever a coral reef is exposed at low water animal decomposition will go on, to an extent proportioned to the size of the reef*" and therefore (the consequences of animal decomposition being proportioned to its extent and amount) the result must be in accordance with the axiom, or the theory must fall to the ground.*

When we have stated the extent of the coral reefs, and pay a due regard to the *normal* condition of coral islands, it will be evident that human beings must either have been swept off the earth's surface by the ceaseless ravages of remittent fever, produced by a perennial cause, or that exposed coral reefs cannot be so great a scourge to our race as Dr Little is inclined to imagine. In the Pacific Ocean, Lyell treating of the vast area of coral formations states, that "the space in the sea which they occupy is so vast, that we may safely infer that they *exceed in area any group of ancient rocks which can be proved to have been of contemporaneous origin*" "In the South Pacific great beds of oysters, mussels, Pennæ Marinæ, and other shells, cover in profusion almost every reef;" and according to M. Chamisso† "when the reef is at such a height *that it remains almost dry at low water*, the corals leave off building." "The reefs on the Pacific are sometimes of great extent: thus "the inhabitants of Disappointment islands and those of Duff's group, pay visits to each other by passing over long lines of reefs, from island to island, a distance of six hundred miles, and upwards. When on their route they present the appearance of troops marching upon the surface of the ocean." Of thirty two islands examined by Captain Beechey, "the largest was thirty miles in diameter and the smallest less than a mile" they were all formed of living coral except one, and "all were increasing their dimensions by the active operations of the lithophytes which appeared to be gradually extending and *bringing the immersed parts of their structure to the surface*" "The parts (of the strip of the island) which are still immersed *or which are only dry at low water*, are intersected by small channels, and are so full of hollows, that the tide, as it recedes, leaves small lakes of water upon them."‡

Besides these circular islands or atolls, we have encircling barrier

coral reefs "above and under water." E. Britannica. This tropical sea, confined situation, and burning climate ought to render it deadly, but where is the fever?

* If on such extensive fields, the theory be explained away, it is no theory at all—a few exceptional and doubtful cases being all that remain.

† Kotzebue's voyage.

‡ Lyell.

reefs of all sizes; and that which fronts one side, and encircles both ends, of New Caledonia is 400 miles long. Internally these reefs, *slope gently into the lagoon channel* or end in a perpendicular wall, and in the case of fringing reefs, their extent depends on the slope of the land, though they rarely exceed a mile in breadth.*

I must however, to afford your readers who may be unable to refer to the work some idea of the extent of the coral formation, extract the following passage from Darwin's Naturalist's voyage. "There are (he writes) enormous Areas in the Pacific and Indian Oceans in which every *single island is of coral formation and raised only to that height to which the waves can throw up fragments, and the winds pile up sand.* Thus the Radock group of atolls is 520 miles long and 240 broad; the Low Archipelago is elliptic formed, 840 in its longer and 420 in its shorter axis: there are other small groups and single low islands between these two Archipelagoes making a linear space actually more than 4,000 miles in length, in which not one single island rises above the specified height."

When we further consider that on this Ocean there are several thousand islands, each island presenting some surface of exposed coral reef, and many of these exposed coral reefs being of great extent as above shown, and when we reflect on the amount of animal decomposition ever generating miasm going on, on this vast surface of reef, together with the total absence over vast spaces of any screen from mountain ranges or forests, to intercept the intense accumulation of miasm in a moist and hot climate, we must conclude, if the theory maintained by Dr Little be correct, that the islands of the Pacific (if they support life at all) must have a climate the most unhealthy in the world—or (as is the fact) we must be driven to allow that these islands being healthy and containing a vigorous and noble race, that the theory of coral reefs as the cause of fever, is utterly untenable.

The Barrier reefs extend 1,260† miles, and Torres Straits within the Barrier stretch between the shores of Australia and New Guinea for two degrees further. In this space are numerous islands and a very great extent of coral reefs exposed at low water, which are marked in the survey of Captain King. It will be sufficient for my purpose to refer your readers to these charts, and to say that the natives of these hundred isles, enjoy health and a vigorous frame, and that Europeans have been exposed amid these water washed coral reefs, from the time of Captain Cook to the present day,

* Darwin. The earlier voyagers (according to this talented author) fancied that the coral building animals instinctively built up their great circles to afford themselves protection in the inner parts, he adds "on this view many species of distinct genera and families are supposed to combine for one end; and of such a combination not a single instance can be found in the whole of nature." Dr Little holds this theory, but it is now certain that the utmost depth at which corals can construct reefs is between 20 and 30 fathom.

† Jukes.

without suffering for the malignant climate which according to the theory, under consideration should render them deadly and next to uninhabitable.

Here again the theory is contradicted by facts on a field sufficiently extensive, to test its soundness. Here again we find that coral reefs exposed at low water do not exert the malign influence attributed to them !

"Again, in the Indian Ocean (writes Darwin) there is a space of ocean 1,500 miles in length, including three Archipelagoes, in which every island is low and of coral formation." "The chain of coral reefs and islets called the Maldivas form a chain 480 geographical miles in length, running due North and South. It is composed throughout of a series of circular assemblages of islets, the larger groups being from forty to fifty miles in their largest diameter. Captain Horsburgh informs me that outside of each circle or atoll, as it is termed, there are coral reefs sometimes extending to the distance of two or three miles."* The reefs, according to Bell's Geography, are level with the water, and in the 17 groups all the larger islands are inhabited, and though the climate is stated to be unhealthy for Europeans, the natives do not appear to suffer from it, as they should do according to the theory, with exposed corals reefs developing putrescent animal effluvia under the burning sun of the Equator.

These coral reefs in such a situation ought to exert a deadly influence on the climate, whereas we read of a Sultan, and his court, and a population of many thousand people, living quietly and respectably, where properly speaking, they ought not to be able to live at all !

These facts appear to me conclusive on a large scale, against the new theory—if indeed it can be termed a theory at all.† If coral reefs, merely because they are coral reefs, cause remittent fever, it is, it must be allowed a new and astounding theory, unsupported by fact, or experience ; but if coral reefs cause fever from miasm generated by the animal decomposition which takes place on their surface—it is no theory at all,‡ but an acknowledged truth, that the effluvia emanating from animal putrescence, is under peculiar

* Lyell.

That these reefs are partly dry at low water, may be inferred from what is ascertained of the atolls in the Pacific.

† Dr Little asserts that the "symptoms and result" of the fever caused from marsh miasm and coral miasm are "identical." Dr Copeland, on the contrary, states in his Medical Dictionary that they are distinct fevers. "The effects or the diseases (he writes) produced by infection vary with the sources and modes of infection."—vegetable miasm producing remittents, animal miasm adynamic or pernicious remittents.

‡ Although not bearing directly on the subject under discussion, I may remark that the "vital principle of Malaria" which Dr Little favours, is as old as Avicenna the Arabian, and opposed by many of the learned modern Chemists. Liebig says that "all the characters of the phenomena of contagion tend to disprove the existence of life in contagious matters" and he adds—"It is certain that the action of contagions is the result of a peculiar influence dependent on chemical forces, and is no way connected with the vital principle." Mitscherlich and the mi-

circumstances, capable of influencing the human body and producing fever; but this so far being a general rule, must be subject to the largest deductions, for experience proves that for every inch of animal decomposition on coral reefs which causes fever, there is a hundred miles of coral reef exposed at low water, which has not that effect.

No theory of general application can be maintained on investigations on so small a scale,* and according to Dr Little's own researches it requires not only a coral reef exposed at low water, but a confined situation, with stagnant air, and all the effects of heat and atmospheric moisture.†

Would not any other reef under similar circumstances produce fever, if loaded with decomposing animal matter? "While almost every tide washed rock in the world is carpetted with fuci and supports some corallines, actoniæ and molusca"‡ would not an exposed reef of $1\frac{1}{2}$ miles affect the health of people living (it may be said) upon it? "Whilst there are *innumerable forms* (of animal life) in the seas of the warmer zones," is it on coral reefs alone that putrescent animal matter is collected?

The effluvia emitted from a decomposing bullock's carcase placed in a gentleman's bed-chamber, would in all probability cause fever not only to himself and his spouse, but to the family in general, but should we be warranted from such a fact in maintaining that decomposing bullocks caused fever, and should we not in preference refer to the established truth that under particular circumstances of situation, and climate, fever is engendered by the proximity of decomposing animal matter!

Does not this apply exactly to the coral reefs in the neighbourhood of Sikang, Ayer Bandera and one or two other small villages near Singapore? Whilst we fully and freely allow that the miasm generated from the decomposition of animal substances, is capable of causing fever under given circumstances, we must at the same time admit that this general law is not peculiarly or strikingly applicable to coral reefs exposed at low water.

When we reflect on the effects which atmospheric changes may produce on the human frame—on the powers of the subtle electrical fluid—on the imperceptible exudation of noxious mephitic vapours from the ground—and the obscurity which envelops the causation

microscope, supports the principle of *vegetable* cells belonging to the lowest forms of vegetable life in the process of fermentation and decomposition. Diseases may result from vegetable or organic germs, or they may have an intimate connexion with disease, without causing it. The microscope can only prove the existence of these "vegetable or organic germs."

* At Ayer Bandera are *two* families, at Sikang 30 persons &c. Dr Little finds intermittent fever on almost every island and in every small village, with, or without coral, and this fact of prevalent intermittent which is adduced as proof of the theory at Pulo Tingy, is not considered to contradict it at Sikra!

† See September number 1848 p. 592.

‡ Lyell

of febrile disease, and endemic and epidemic influences, we are justified in hesitating before we admit an hypothesis which, generally applicable, would inflict a cureless scourge on mankind, and render a third of the globe uninhabitable. I cannot agree with Mr Earl in wishing success to the author of this theory, with all its inevitable consequences, and should it be established, I should receive the truth with fear and perplexity.

I must sum up therefore by saying

1st. That coral reefs—as coral reefs have no influence on health.

2nd. That animal decomposition under peculiar circumstances can cause fever, occurring on Coral reefs or *elsewhere*.

3rd. That Dr Little's personal observations are on too minute a scale to establish a theory generally, or even partially applicable, to an extended space.

4th. That the examples brought forward to support this theory are either erroneous or valueless.

5th. That the fever caused by the effluvia of animal decomposition is distinct, and not "identical" with the fever produced by marsh miasm,—and

6th. That the theory under consideration, so far from being new, is but the reassertion of an established truth; viz, that in confined situations, especially in hot and moist climates, the effluvia of decomposing animal substances, will cause adynamic fever.

Although disagreeing with Dr Little in the doctrines set forth in his present series of articles in your journal, I applaud his investigations, and the boldness with which he has laid them before the profession and the public, and if in gentlest courtesy I have ventured to touch his shield, he will, I am confident, attribute it to its true motive, the love of truth.

AGRICULTURE IN MALACCA.

By F. L. BAUMGARTEN Esq.

Land in Malacca is cultivated entirely by the native population. No Europeans, or their descendants, appear to be inclined to invest their capital in agricultural speculation: probably from the unfavorable terms upon which Leases are granted by Government, and the failure incurred more than twenty five years ago by parties who had undertaken the cultivation of Pepper and Coffee upon extensive scales.

By an order of Government, announced by a notification from Mr Bonham in 1840, the terms upon which lands were to be granted were, "rent free for two years; from the second to the fifth year at 4 annas per acre; from the fifth to the tenth year 8 annas per acre; from the tenth to the twentieth year one Rupee," and the lessee to have the option of renewal for thirty years, on payment of an annual rent for the additional period, at the rate of three rupees per acre! while at the sister settlement of Singapore land may be purchased from Government in fee at 5 rupees per acre. As a further clog, he is required to agree that if he should fail to pay his rent, or should abandon his ground for the space of one year, it shall, without any formal process, revert to the East India Company.

So unwilling have speculators been to take out clearance leases on these terms that, although eight years have elapsed since their promulgation, not a single lease had been taken for agricultural purposes, excepting for small patches of ground near the town and along the sea-shore, many, if not all of which, were no sooner taken than abandoned; such for instance are the patches of land between Klebang Besar and Tanjung Kling. This notification, although it had not the effect of deterring an increasing population from squatting on the land, had a different result from that intended. Extensive tracts have been cleared by Chinese and Malays without even obtaining permission from the superintendent, and when called upon to pay rent after their plantations have become productive, have entered into an agreement with Government to pay a fixed rate per annum for a period of twenty years, commencing from the date of the agreement, at the end of which the tenants would have the option of a paying tenth for ever, or entering into a fresh agreement with their Landlords, who acknowledge that they possess only "the right of taking for the use of Government one tenth part of the produce of all lands in the settlement of Malacca," so that the Notification of 1840, so far as it concerns the leasing out of land for agricultural purposes, has been a mere dead letter from the time of its promulgation up to this period. With respect to the cultivation of the sugar cane, however, grants upon better terms were applied for, and directed to be issued by the Bengal Government; these were to be rent free for five years, and thereafter to bear a rent of four annas per acre, so long as there existed a sugar estate upon the land, but even these were destined not to take effect—

the late mercantile distress in England having disconcerted all the plans of the intended sugar companies, and consequently the applications for these grants have not been renewed. No concession of this kind has been made for any other sort of intertropical culture, although each will require as large an outlay, machinery and building excepted, as a sugar plantation. It is a mistake to suppose that the Dutch*, by which I mean the inhabitants, not the Government, paid no attention to the soil; on the contrary, large capitals were expended by them in the cultivation of pepper and coffee. Extensive plantations of the former were abandoned, when it was found that this article could not be produced so cheaply as to compete with the native produce of Sumatra. The failure of a company which was formed for the cultivation of coffee, is attributable to their having exposed the young plants to the sun without the least shade, thereby rendering them sickly and susceptible of the attacks of white ants, which eventually destroyed them. It is a well known fact that no coffee plantation has succeeded even in Java when exposed in this manner. The coffee planters only discovered their mistake when it was too late to apply a remedy. This was the first check given to agriculture in this settlement, and the twenty year's lease soon completed what ill-success and disappointment had begun, for it entirely destroyed the zeal for agricultural pursuits which had prevailed among the inhabitants of Malacca. There can be no doubt that perpetual leases, upon moderate terms, are the only sure means of restoring confidence, as well as developing agricultural resources in a country in which there is abundance of jungle, where wild vegetation is so exuberant that a plantation reverts into its primal state after a couple of years neglect, where land belonging to a private individual, of a rich description, and nearer town than any now available from Government, may be obtained in perpetuity by the payment of one eleventh of the produce, the tenant paying nothing before the plantation comes into bearing—in a country where lands upon short leases and variable terms have no value—where higher rents are cheerfully paid when the tenure is to be in perpetuity, by a people with whom the very terms *Pesaka Nene' Moyang*, inheritance from fore-fathers, have a magical import, and perishable articles no comparative value; witness the care with which every dollar is converted into gold ornaments, instead of decent clothing. As the local government of the present day appear to be satisfied, that no short leases upon unacceptable conditions, will ever tend to improve the cultivation of Malacca, we may expect that ere long more favourable terms will be conceded. Anticipating this, it may be desirable to consider what species of cultivation is best adapted to the place, and the least expensive mode of cultivating it.

Malacca is unquestionably the most healthy, and the finest spot

* Journal Ind. Arch. II, p. 144.

in the Straits, independent of its historical interest. It has not the humidity of Singapore, nor the arid atmosphere of Pinang, and possesses soil equal in fertility to any, and capable of producing all the kinds of tropical plants known in the Straits. The only drawback is, that being an ancient European settlement, no choice spots could be obtained within six or eight miles from the Government House. This distance would be of no consideration in a place whose peasantry are as peaceful as are those of Malacca, if the roads were in good repair, the swamps properly trenched and drained, and the streams cleared of obstructions which have been allowed to accumulate for years. I have seen beds of streams so obstructed with logs of wood, which have been felled across and have disappeared under an accumulation of mud and rubbish, as to be in dry weather on a level with the banks. In consequence of this state of things, for a succession of years, there have been complete failures of the Paddy crops, and the government as well as private individuals—both the planters, and the capitalists who have advanced them money for grain cultivation—have become sufferers: the government, by adding a nominal rent to eight or ten years arrears without the prospect of realizing more than one half, except by causing additional distress to an already indigent and depressed peasantry,—the capitalist, by the loss of capital from the inability of the cultivator to repay the loan either in produce or money,—and the cultivators by the debt thereby incurred, and the difficulty of obtaining advances for the succeeding season, with no option but that of closing with the money lenders upon exorbitant terms, or abandoning their fields until better times. It not unfrequently happens that these revert to government from long neglect, and are given away to applicants, who have neither bestowed labour nor expended capital upon them. Such is the condition of the generality of the native population, who but for the disregard shewn to agricultural improvement, might be a happy and a prosperous people, under the British government. They are, however, greatly indebted to the able and zealous exertions of the Honorable Mr Blundell, the Resident Councillor, supported by the Honorable Colonel Butterworth, the Governor of the Straits, for improvements which have of late been made, and are still being made for their benefit and the advancement of the true interest of the government. Could the government of India be persuaded to take the subject into their serious consideration, and sanction the improvements recommended by the local authorities (which would cost them perhaps a few thousand rupees) they would not only be amply compensated by a better revenue, but a steady payment of it. “Drainage” says Mr George Robertson† “lies at the bottom of almost every amelioration; and it is [in great Britain] prosecuted

† Author of “Rural Recollections, or the progress of improvement in Agriculture and Rural affairs.”

to an extraordinary extent, and with surprising success. The practice of furrow draining is now widely diffused over the north and east of England; and it has been introduced, within the last half dozen years, into this part of the country (Scotland) and is carried on upon a scale that will hardly be believed by those not acquainted with the facts. Landlords and tenants are everywhere availing themselves of this new discovery." In addition to this, I would add that it would prepare the way to the introduction of bullock instead of buffalo draft cattle, the latter of which have of late years been peculiarly subject to the sweeping attack of the murrain. Furrow-draining ought to be solely dependent on the cultivators themselves, but surely we cannot in justice call upon them to contribute even a portion of their labour for the improvement of the general revenue without a remuneration, and yet that this will be the result of their labour nobody will dispute. But here, on the contrary, is a willing peasantry offering every assistance they are able to render in draining the country, asking nothing in return but a gantang of coarse rice each man at the close of the day, worth about six cents, (this is indispensably necessary, as they are obliged to earn their livelihood by daily labour, and unless they are provided with a meal at the close of the day, they cannot afford to bestow any time in the work of general improvement) and so convinced are the Municipal Committee of the great necessity of drainage from repeated failure of the paddy crops, that although no present benefit is derivable to the fund, they have offered to co-operate with the government, by undertaking to pay one third of the whole expense.

Anticipating, however, that the true interest of Government, and the amelioration of the condition of more than sixty thousand of the population, who must receive the cup of good or of evil at their hands, will not be disregarded, and that the measures recommended by the local authorities, will ultimately be attended to, let us consider what kinds of cultivation are most inviting. At first those of an indigenous kind claim a preference, and of these the most hardy and the least expensive in their culture, are the Coconut, Betelnut, Sago, (*Cycas circinalis* L.) Kabong, (*Borassus gomutus* L.) with the usual variety of fruit trees found in the Dusons of Malacca, that is, heterogeneous collections of fruit trees planted out, immediately after a jungle is cleared and burned, but before the removal of stumps, and leaving them to grow together with the jungle for seven or eight years, only clearing the latter once in every couple of years. As an improvement, a hundred acres of land may thus be cleared and planted with a variety of fruit plants or seeds in rows as nearly regular as practicable, each species in a separate lot or section; they may be thinned or otherwise improved as it suits the owner when the Dusun can pay its own expense. As for nutmegs, cloves and other expensive cultiva-

tions, I think they must, for the present, be left to capitalists whose enthusiasm has not been damped by witnessing former failures—who are not sparing of their purse, and have strong nerves to persevere in an expensive mode of culture, though it should end, as in the case of nutmegs, in the disappointment of finding after a five or six years labour and expectation, that nearly one-half the number of his trees are male, and must be cut down. The object of these observations is to show that planting in Malacca, upon a moderate scale, with a certain return of produce, is within the reach of many, provided certain indispensable requisites are attended to, especially during the earlier periods when the expenses are more felt than when the plantations are beginning to assume a thriving aspect.

Supposing then that a speculator intends to open a plantation, the principal thing that ought to be attended to is a good locality, and one which may be approached by a road, kept in constant repair; for where a bad road interposes, a distance of a few miles is practically as bad as a distance of twenty or thirty.

Having overcome this primary difficulty, and supposing that the intended planter purposes opening a cocoanut plantation, he should make a choice of a gently sloping or level surface, with a portion of swampy land in its vicinity, having sufficient inclination to carry off the water should the land require draining. The swampy land should form a part of his lease, as he might require it, but if he should not, it would still be necessary in order to ensure the settlement of a peasantry in his neighbourhood. Land near a running stream should be preferred, as in localities where there are extensive swamps and no free egress, there often arise heavy pernicious vapours which steal along the surface of the adjacent grounds, and cause endemic fevers, especially of the intermittent and putrid kinds; running waters, on the contrary, purify the air and are of great advantage for cattle during the dry season when the fields are generally all parched up.

In clearing his land the planter should preserve some of the large fruit or timber trees, at irregular distances, and with sufficient brushwood around each to prevent its being burnt, when the clearing is set fire to. These will serve not only as shelter to the labourers from the heat of the sun, but some useful purposes afterwards; besides they will impart a picturesque appearance to the plantation. He should select a light soil, because the labour of working stiff land is very great, independent of other disadvantages. Marshy lands, ought not to be selected for a cocoanut plantation; for independent of their unsightly appearance, and the great expense and length of time required to fill them up, the want of a perfectly free outlet for the stagnant waters which saturate and poison the soil, renders the trees susceptible of attacks from the beetles which eventually destroy them, it being a notorious fact in Indian arboriculture that only the roots of unhealthy trees

or such whose sap is deficient or poisoned by unwholesome nutriment, are subject to the attacks of the white ants and other insects, in the same manner, I suppose, as the human frame is liable to various diseases when the constitution is in a condition susceptible of their impressions.

Many trees of this description are to be seen in Malacca, and mostly in places where perfect drainage cannot be obtained. It is not unusual to see extensive swampy fields with no less than two feet of water in them, planted out with young cocoanuts, raised upon little mounds, measuring about three feet in diameter, the palms looking perfectly yellow from the poisonous effect of the water upon the roots.

No care is bestowed by the Malays upon their cocoanut gardens. In general the first object with them is to find ten or twenty acres of marshy land for a paddy field, and a small portion of raised or dry land to build a hut on, around which eight or ten cocoanut plants are laid, generally at twelve feet from each other, intermixed with a variety of fruit trees. When the plants are first put in the ground, a few kladi stalks are inserted between the spaces, and the ground kept clear of grass for a few years, after which, excepting burning a little rubbish now and then, no further labour is bestowed upon them until the trees are full grown, and the roots so interwoven that no lalang seed can take root; while frequently the plants are allowed to struggle for existence through the repeated cropplings of the young shoots and palms by the buffalo. It is considered beneficial to the trees, when they are full grown, to heap up rubbish at the foot and set fire to it, in order to destroy the grass and the roots which appear above ground, by which the bark is frequently burned, and yet strange to say, the trees thrive well enough in spite of all this ill-usage, to which must be added the cutting of deep notches along the whole stem of the trees for convenience in climbing them. But in a plantation where it is intended that the trees should occupy a space of twenty eight or thirty feet from each other, care must be taken to eradicate all lalang grass, which, if allowed to remain and take root, will materially injure and retard the growth of the trees. The system I would adopt in originating a plantation of this description will be explained in the following estimate and observations:—

First year's Cost.

Clearing 120 acres of forest land at 8 Drs. per 100 square fathoms	
or 1 Dr. per acre.....	Drs. 120.
Twelve Chinese immigrants at Drs. 7 each.....	„ 84.
Rice—1,728 gantang, at 12 gantangs each man per month, or 2½ coyans in round numbers, at Drs. 46	
per coyan.....	„ 115.
Dried fish &c. at 45 Cents each man per month ..	„ 64. 80
China Tobacco 30 Cents per month for 12 men..	„ 3. 60

Shaving allowance at 8 Cents per month each man	Drs.	11. 52
Remittance to China at Drs. 4 each man.....	„	48.
Coarse clothing for 12 men.....	„	3.
One Chinese Overseer at Drs. 5 per month.....	„	60.
Picked Nuts 7,000 at Drs. 12 per mill.....	„	84.
A Cart and a Buffalo, and materials for four houses for coolies.....	„	50.
Implements	„	20.
		<hr/>
		Dollars 663. 92

Second year's Cost.

Twelve Chinese immigrants.....	Drs.	84.
Rice	„	115.
Dried Fish	„	64. 80
Tobacco	„	3. 63
Shaving allowance.....	„	11. 52
Remittance to China	„	48.
Coarse clothing.....	„	3.
Chinese Overseer.....	„	60.
Tear and wear of buildings, carts, and implements.....	„	20.
		<hr/>
		409. 92
Five following years at this rate		2049. 60
		<hr/>
Total expenditure for seven years.....	Drs	3123. 44

I have allowed twelve coolies in the above estimate, as I contemplate employing them in the manner shewn hereafter, but should they not be required to be so employed, their number may then be reduced to eight or ten. The passage money of each cooly is also rated at 7 dollars, although it is often as low as 4 and 5 dollars. The price of rice is upon the same principle take at Drs 46: as the adoption of these maximum average prices will compensate for unforeseen contingencies not included in the calculation.

This estimate is made upon a supposition that nothing else is to be cultivated in the intermediate spaces, but if the principle of rotation of crops be admitted to be an improver of the soil, as it is maintained in Europe, I would suggest (what I myself practise) the cultivation of culmiferous, leguminous and bulbous rooted plants in rotation, and of these chillies, kachang, sweet potatoes, yams, and pumpkins, are the favorites of the Chinese. It is admitted that some of these by their broad leaves draw much of their nourishment from the air, while the roots of others aid in dividing and pulverizing the hard clayey soil. The cultivation of these plants will considerably lessen the expenses of the first four years.

I consider that each cooly, if stimulated by a promise of a few dollars at the expiration of his period of servitude, would be able to raise at least 36 dollars worth of annual plants, and twelve men at this rate, would raise 432 dollars at the end of the year. Dr Oxley, who has had considerable experience of the working of labourers of all nations in the Straits, observes,* "it is surprising how much better the Chinese work when they are paid by the task rather than the day, and singular enough they are better content, working harder and earning less by the former system than the latter. Few labourers in the world can equal them, when working on their own account, but on regular wages they are most complete eye servants: they are however, upon the whole, the best class of field labourers." This trait in the Chinese character is so well known by their own countrymen in the Straits, that they seldom employ them in any speculative undertaking without giving them a small share.

Of the above amount, I propose that about one-third should be given to the Overseer, to induce him to keep the men under him to their work; which with the promise made to the Coolies would amount to nearly 200 dollars, leaving a profit of about 250 dollars to be deducted from the yearly expense for the period of four years, thereby reducing the total expenditure of seven years to 2,000 dollars. At the end of the fourth year no more vegetables ought to be cultivated, but the growth of innoxious grasses ought to be encouraged, as by the entanglement of their roots the lang seeds are kept out of the soil; but as they are apt to insinuate themselves wherever they can find an opening, care must be taken to eradicate them whenever they may make their appearance. At this time also, a compost of cow-dung and burnt earth ought to be spread on the surface; a good portion of which must already have been washed into the soil by percolation, from the first burning of the jungle, and the subsequent cultivation of the intermediate spaces.

I admit the great advantages resulting to the cocoanut trees from having the intervening spaces entirely unoccupied even by innoxious grasses, but the enormous expense attending such a mode of cultivation, with the existing feeling against agricultural speculation in Malacca, renders the undertaking impracticable to any but foreign capitalists, and of these we have none, and probably never will have so long as Singapore offers a temptation to mercantile pursuits. †

* Journal Indian Archipelago V. II. page 651.

† The Cocoanut begins to bear at the end of the seventh year, but full crops cannot be expected until the ninth year. During this interval the utmost average quantity that can be expected will not exceed 25 nuts yearly, and assuming a plantation of 120 acres, at 30 feet, to contain 5,800 trees, the number of nuts produced will only be 145,000, which at eleven dollars per thousand is 1,595 dollars per

I contemplated that the planter should take a lease of swampy land together with his lease for dry land. Supposing that he has obtained a hundred or more acres of the former upon favourable terms, he should as soon as convenient procure the settlement of about ten Malay families by encouraging them with the loan of buffaloes and implements, and perhaps, a few months' consumption of rice, receiving in return, one-third of the grain produce. This is one of the *hadats* or ancient customs of the Malays, and they very gladly accept the offer, when it is made, provided of course, the land is good and capable of being drained. The buffaloes should be females, as they form a stock belonging to the owner, but the calves are divided between the owner and his tenants, upon whom the keeping and rearing of the cattle devolve. The estimate of the original cost and subsequent profit may then be as follows:

Ten buffaloes at Drs 15 each.....	Drs 150
Implements—ten chankols and ten parangs.....	„ 10
A picul of rice to each family.....	„ 12
Seeds, at 6 gantangs per acre.....	„ 15

Drs 187

In general a field in a flourishing condition yields sixty fold or 360 gantangs per acre;* but taking it at 300 as an average, one hundred acres will annually produce 30,000 gantangs or 37½ coyans, which, at Drs 20 per coyan, is equal in value to Drs 750, one third of which is Drs 250. But this amount cannot be realized during the first two years, as the stumps will not all have been removed by that time. Perhaps the quantity produced may then

annum. But the fruit bearing power of the trees may be considerably improved by extracting Toddy from the blossom shoots for the manufacture of jaggry, during the first two years of its productiveness, after which it may be discontinued, when from the force of habit, it is supposed, it will continue to yield plenty of juice and produce heavy crops ever after. The profit realized from the juice of each tree may be averaged at ¼ of a cent per diem. In general each tree has two mayams or flower shoots open at the same time, and they last for about three months, after which others are produced. Each mayam will yield toddy sufficient for the manufacture of two small cakes of jaggry, four of which are equal in value to about ¼ of a cent, at which rate 5,800 trees will realize daily dollars 43.50. But as every tree is required to be twice climbed, and the jaggry to be manufactured daily, a greater portion of this amount will have to be applied towards the payment of labourers; and assuming so high as two-thirds of this sum as their proportionate share, we have still a daily income of dollars 14.50, or per annum, dollars 5,292.50. for the first two years. The subsequent annual produce may be safely reckoned at fifty nuts per annum one tree with another, and 5,800 trees will give 290,000 or dollars 3,190, at dollars 11 per thousand; forty may be considered the average number now obtained from trees that are crowded to even within 15 feet of each other. The profit cannot be much enhanced by the manufacture of oil. The only advantage will be that of obtaining the oil refuse or *ampas* for feeding poultry, pigs and cattle. I have seen 42 pigs belonging to a Chinaman of which 20 were large, weighing from 50 to 70 catties, in the most excellent slaughtering condition, fed only upon three gantangs of rice, and the oil refuse of 100 coconuts daily.

* Col. Low gives 100 fold as the produce of Province Wellesly—4 gantangs are said to be the quantity sown and 480 gantangs as the produce of each acre. In an official return in Malacca made in 1828, 8 gantangs of seeds were stated as sown in each acre of ground and 75 per cent the produce.

be estimated at about one third only. It will be perceived that this plan will still further diminish the expense of the cocoanut cultivation, at the same time that it secures an additional profit hereafter. As yet there are no correct statistical data to go upon. The information obtained from native cultivators cannot be much depended on. From 40 to 60 fold are stated to be the returns yielded by each gantang of seeds, but when the question is pushed the result by no means proves the correctness of these statements. I asked one individual what was the produce of his fields, consisting of 42 Battas, his answer was two coyans, raised from 30 gantangs of seed—this will give a little more than two gantangs of seed per acre, and make the return 50 fold, but upon referring to his commutation deeds, I find they measure about 14 acres; if this measurement be correct then his fields produce only 114 gantangs per acre. Another individual says he has obtained 1,500 gantangs from his fields, which he considers very fair, but on reference to his commutation deed, they measure about 11 acres, which gives 136 gantangs per acre, the quantity of seed sown is unknown. But it must be admitted that the paddy crops have not been generally good this year. A great advantage would be obtained to statistical knowledge if the *Battas* were ordered to be made all of one size, say forty fathoms by twenty, (about one-third of an acre) and the cultivators were made to sow seeds and begin planting within a certain limited time; from June to August ought to be the limit for paddy Selangore, which takes seven months from seed to harvest, and September the utmost limit for paddy Nachin which yields in five months. I have introduced the subject to the notice of several of the cultivators, and pointed out to them the injurious effect of this want of system and co-operation for the general good, the reasons which appeared to me at first to be merely selfish—the fear of having the crops of those who have first planted entirely devoured by rats, before the others could be ripe enough to come in for a share; but upon further enquiry I find defective drainage to be also a principal cause. When the season for planting arrives, it too often happens that there is in some fields too much water, which from obstructions in the water courses cannot be drained off, and necessity compels the owners to wait until a great portion of the water is evaporated by a change of weather, which however seldom takes place until the season for planting is too far advanced, and the dry season makes its appearance before the ears are formed, which are thereby shrivelled in the buds.

An extensive paddy field has a beautiful appearance, and keeps the air in a pure state, for which reason it should be preferred to other kinds of culture; but if the planter has a mind to cultivate the swamp himself, he should not, I think, undertake paddy cultivation, as the labour is great and he will require a number of hands which will eventually cost him dear, if the grain should by

any chance be destroyed. In the latter case he should clear his ground and plant it with the sago palm. This is a hardy plant and thrives remarkably well in swampy land and without culture. The only expense will be that of partially clearing the Glam jungle and planting it out with the seeds or young shoots of the sago, the whole amount of which will not probably exceed 300 dollars; after which nothing more will be required for ten years. The progress of its vegetation in the early stages is very slow, but as soon as its stem is formed, and the roots have acquired sufficient strength it kills the surrounding wood, and where the soil is rich, rises in a short time to about twenty-five feet in height, with a circumference of about six feet. As soon as this tree is in a state of maturity, just about the period that the flower buds begin to appear, it is cut down near the root, and divided into several sections for the greater convenience of removing them. The mass of mealy substance which is enveloped by and adheres to the fibres, is then scooped out and pounded into a pulp, which is packed up in bundles of a conical shape, made from the leaves of its own palms, for exportation from the native states. When it is intended for use, or for the Europe market it undergoes a further preparation, for particulars of which see *Journal Indian Archipelago* Vol. III. No. V. article Sago. Each tree is said to yield from 20 to 120 gantangs of flour Sago, which is retailed at ten cents per gantang, but taking it at the rate of 5 cents, and the number of gantangs at 90, to make up for the expense of cutting and preparing it for the market and disposing it by wholesale, we have Drs 4.50 for the produce of each tree, which unlike the cocoanut is continually multiplying by young shoots sprouting up in great abundance from the roots, so that when once a plantation is fairly established it becomes an everlasting source of profit.

Betelnut is also a profitable produce and has no kind of enemy, but the great luxuriance of our jungle and the invasion of the lalang grass, render its culture on an extensive scale somewhat expensive, so that it cannot be undertaken in conjunction with cocoanut planting by a small capitalist, and one whose time is not his own; but should he have money and time to spare, and is inclined to devote his attention exclusively to agriculture, he cannot do better than have one at the same time with his cocoanut plantation—the tree bears in five years, and in most virgin soils will thrive very luxuriantly. Drainable marsh is the best description of soil for this cultivation. If a person have perseverance enough and can personally superintend the details of his plantation, the following will perhaps be the most economical way of cultivating it.

Clearing and burning 120 acres of Glam swamp at	
62½ cents per acre.	Drs 75
500 gantangs of seed Paddy at Drs 2½ per cent.	„ 12. 50
	<hr/>
	Drs 87. 50

No other expense will be necessary for the first year. The clearers will be allowed to plant paddy during that year, the owner receiving one-third of the produce as his share, which according to the estimate already giving for Paddy cultivation will be about four coyans, equal in value to Drs 80, leaving only Drs 7½ as the first year's expense.

The second year's disbursement may be as follows :—

Cost of 12 Chinese immigrants for one year	Drs 329. 92
Chinese Overseer	„ 60
Implements (not including ploughs)	„ 23
Nuts 40,000 at 50 cents per mille	„ 20
Houses for coolies	„ 30
Seeds	„ 12, 50
	<hr/>
	Drs 472. 42

Deduct.

Produce of Paddy this year averaged at 20 coyans	Drs- 400
One third of this amount to Chinese coolies and Overseer	„ 133. 267.
	<hr/>
Balance of expense for 2nd year	Drs. 205. 42

Third year.

Chinese immigrants	Drs. 329. 92
Ditto Overseer	„ 60.
Ten Buffaloes at Drs 15	„ 150.
Ten ploughs	„ 30.
Six Harrows	„ 3.
500 gantangs of seed	„ 12. 40
	<hr/>
	Drs 585. 42

Deduct.

Full produce this year 37½ coyans at Drs 20 per coyan	Drs 750.
One third of this to coolies and Overseer	„ 250.
	<hr/>
	—500

Balance of 3rd year's expense Drs. 85. 42

After the paddy crop this year they may also be made to raise a crop of sweet potatoes and kladi, and to rear a number of wholesome pigs for the market, which, besides bringing you income more than sufficient for the disbursements, will also most materially improve your dung pits.

Fourth year as the third.

In the fifth year your plants will be more than three years old, and they will require more earth for the roots, so that only half of

the interjacent spaces will be available for paddy ; the rotation of crops would have improved the land so considerably that very little difference would be experienced in the quantity of produce ; so that the expense would not far exceed that of the fourth year.

In the sixth year no more grain could be sown, and the ground must be then properly drained,—ditches in parallel rows ought to be cut between each row of trees, about 2 feet in width and the same in depth, all leading to a central canal of about six feet in width and four in depth, if there is no river near ; but if there is, unless the nature of the ground requires it, there will be no necessity of the main drain.

Each tree in good bearing yields an average about six bunches of 100 hundred Nuts each; 40,000 trees would yield 2,400 laksas, which at dollars 2 per laksas (10,000 nuts weighing about $1\frac{1}{2}$ picul) gives 4,800 dollars per annum. From this amount is to be deducted the expense of watching, collecting, splitting and drying &c.

It will be perceived that the amounts of produce of all the foregoing articles are made upon the lowest possible average, and therefore no hopes are raised which are not likely to be realized.

The Kabong or *Borassus gomutus* is also a palm tree of some importance. It grows to the height of the cocoanut and sago trees, and is cultivated principally for the juice which it yields for the manufacture of jaggery. Like the cocoanut and many other inter-tropical trees it comes into bearing after the seventh year. It produces two kinds of mayams, or flower buds—male and female. The female shoot yields fruit but no juice, and the male vice versa. Some trees will give five or six female shoots before they yield one male, and such trees are considered unprofitable by the toddy collectors, but it is said in this case they yield sago equal in quality though not in quantity to the *cycas circinalis*, although it is not always put to such a requisition by the natives ;—others will give only one or two female shoots and the rest male, from each of which the quantity of juice extracted is equal to that of ten cocoanut shoots. A single tree will yield in one day sufficient of juice for the manufacture of five bundles of jaggery valued at 2 cents each. The number of mayams shooting out at any one time may be averaged at two, although three is not an uncommon occurrence. When sickness or other occupations prevent the owner from manufacturing jaggery, the juice is put in a jar where in a few days it is converted into an excellent vinegar equal in strength to that produced from the vinous fermentation of Europe. Each mayam will continue to yield toddy for at least three months though frequently for five months, and fresh mayams make their appearance before the old ones are exhausted ; in this way a tree is kept in a state of productiveness for a number of years, the first mayam opening at the top of the stem, the next lower down, and so on until at last it yields one at the bottom of the trunk

with which the tree terminates its existence. The fruit bearing mayam has a beautiful appearance, the nuts hanging in clusters of many thousands, and when green the transparent kernal is made into preserves, known as *manisan kabong*. The tree grows spontaneously and requires not the slightest care ; it thrives best in hilly soil, where it flourishes even in the midst of jungle. The ijau or black fibrous covering of its trunk makes excellent cordage of all descriptions—from the string used for fastening roofs or palings, to the hawser of native vessels. It is of the most durable quality and stands the weather much better than coir or rattan.

The rearing of cattle forms also a subject of great importance to an agriculturist, and a plantation is therefore not complete without a Farm-yard. With this view, a simultaneous object with the opening of a plantation, should be that of purchasing ten or twenty cows with one young bull ; they ought to be heifers from $2\frac{1}{2}$ to 3 years old. The cow-house ought to be capacious, so as to be able to contain about a hundred head of cattle,—one of 60 by 30 feet will answer this purpose ; it should be airy and ventilated, the floor paved with bricks and sloping towards two sides, where there should be a clear run of gutters to carry off the urine to a pit outside ; the gutter from one side should communicate with the other by a vaulted passage running under ground, across the middle of the building, and the whole surrounded by a strong palisade of brom-bong wood. The main pavement of the building may be laid flat, provided the cement is strong ; some bricklayers have an idea that the larger the quantity of chunam used the stronger is the cement, and at this rate you are made to pay for a larger proportion of lime than is requisite for the work ; one half is the usual quantity of chunam recommended by them, when the work is required to be strong, but you cannot spend money to less purpose—the cement is stronger when there are more particles of coarse sand to hold together ; the proportion I have found to adhere best is one of chunam to two or three of sand. The pen must be daily scraped with a square blunt iron chankal, and all refuse carried out to the dung pit, which should be shaded from the action of the sun. The coating of dung that is left after cleaning soon dries up, and serves as an elastic covering to the floor, which preserves it from being broken by the trampling of the cows. The roof of the cow-house, indeed of all out houses, should be of glam-bark unless the leaves of sago palm can be readily obtained—it lasts twice as long as attaps made of nipah,—is less combustible and a great deal cooler. One or two grazing grounds ought also to be prepared connected with the plantation if possible, but entirely separated from it by bamboo hedges ; but if unconnected, they should be at no greater distance from it than half a mile. In localities where there are abandoned gambier or pepper plantations, these may be obtained for a trifle, the only expense would be clearing them of brushwood

and making several partitions of bamboo hedges. Two men ought always to be employed exclusively for them, and of all natives, the Hindoos are the very best cow-keepers.

THE POPULATION OF THE INDIAN ARCHIPELAGO.

By ST. SPENCER JOHN, Esq.

The Philipines.

HAVING procured the official census of 1846, of the population of the Philipines, I forward the accompanying table taken from the "Guia de Forasteros en les Islas Filipinas":

<i>Provinces.</i>	<i>Souls.</i>	<i>Tributaries.</i>
Tondo	238,171	45,987½
Bulacan	178,402	38,739
Pampanga	191,385	41,090½
Nueva Ecija	25,992	6,387
Zambales	41,279	9,076½
Bataan	36,283	7,933
Cavite	94,950	19,767½
Batangas	203,357	42,470½
Laguna	124,503	29,463½
Mindoro	29,309	6,645
Ilocos Sur	186,545	39,777½
Abra	15,807	3,978½
Ilocos Norte	132,913	31,193
Pangasinan	183,478	40,050½
Partido del Mismo	39,598	9,096
Cagayan	59,836	14,768½
Nueva Viscaya	21,032	5,118
Batanes	10,433	..
Camarines Sur	108,286	24,148½
Albay	131,328	37,462½
Camarines Norte	25,149	4,553½
Tayabas	82,334	18,833½
Cebu	342,103	63,418½
Isla de Negros	71,722	16,233½
Leite	105,690	22,211½
Samar	103,858	21,050½
Iloilo	281,907	59,128½
Capiz	149,808	30,618
Antique	73,458	14,671
Misamis	41,380	7,106

Zamboanga*.....	7,705	..
Caraga.....	29,277	5,680
Calamianes	13,905	4,373½
Total.....	3,431,183	721,033
The Mariana Isles	8,366	
The White population of Manila &c... ..	3,795	
The number of Tinguianes of the Cordilleras &c. ..	9,488	
The Chinese.. ..	7,442	
Batanes.. ..	10,433	
Zamboanga	7,705	
	Total	3,652,394

Augmentation in two years taken from the same table 290,234

3,942,628

To this we may add at a very moderate computation for the numbers not taxed from various reasons and for the wild tribes of the interior of the islands.— .. 1,000,000

For Mindanao and Basilan moderately computed† 1,000,000

Total 5,942,628

DR MEDHURST'S CHINESE MISCELLANY.

We have received three numbers of this Miscellany, the prospectus of which we published some months ago. It is on the plan of the Bencoolen Miscellany; that is, each number is a single tract, and the Editor does not pledge himself to a regular periodical issue. The 1st number is "a Glance at the interior of China, obtained during a journey through the Silk and Green Tea districts;" the 2nd, is entitled. "The Chinaman abroad, or a desultory account of the Malayan Archipelago by Ong-Tae-Hae;" the 3rd is "on the Silk manufacture, and the Cultivation of the Mulberry, by Tseu-Kwang-Khe, a minister of state in China." The 1st and 3rd papers are full of valuable and interesting matter, but the most curious is the 2nd, which is a translation of a Chinese work on the Indian Archipelago. There is hardly a characteristic of the Archipelago that is not adverted to. The manners and characters of nearly thirty races native and foreign, useful and remarkable animals, natural productions, &c, are all briefly noticed. The whole account is just such a mixture of shrewd observation, credulity and superstition as we should have expected from a Chinese. What fell under his own eyes is in general

* This is a misprint for Babianes and the number is probably misprinted likewise but the mistake is insignificant

† Both these statements are on the authority of Spanish gentlemen well acquainted with the Philippines.

correctly described. The remainder is a reflection of the fables and superstitions of the Javanese and Malays. The whole picture is exceedingly interesting as a gauge of the Chinese mind—a measure of the knowledge and faculty of observation which they possess. The Chinese names of places would have been invaluable to Mr Landresse and Mr Laidlay in their recent editions of *Fahian's travels*. The following are from Mr Ong-Tae-Hac's remarks on the Dutch :—

With respect to the Dutch, they are very much like the man who stopped his ears while stealing a bell.* Measuring them by the rules of reason, they scarcely possess one of the five cardinal virtues; the great oppress the small, being overbearing and covetous, thus they have no benevolence; husbands and wives separate, with permission to marry again, and before a man is dead a month his widow is allowed to go to another, thus they have no rectitude; there is no distinction between superiors and inferiors, men and women are mingled together, thus they are without propriety; they are extravagant and self-indulgent in the extreme, and thus bring themselves to the grave, without speculating on leaving something to tranquillize and aid their posterity, thus they have no wisdom. Of the single quality of sincerity, however, they possess a little. As it respects the manners of the natives, with their uncouth forms, their singular appearances, dwelling in hollow trees, and residing in caverns, with their woolly hair and tattooed bodies, their naked persons and uncooked food, and all such monstrous and unheard of matters, it is scarcely worth while wasting one's breath upon them.

The situation of Batavia is low, and the dwelling-houses are very close together; but when you get out into the campons or villages, you meet with the gardens and parks of the Hollanders, adjoining one another, for miles together. There you have high galleries and summer pavilions, bridges and terraces, so elegant and beautiful, as almost to exceed the compass of human art; the extreme skill and cleverness displayed in erecting them no pen can describe. Every seven days there is a ceremony-day or sabbath, when from nine to eleven in the morning, they go to the place of worship, to recite prayers and mumble charms; the hearers hanging down their heads and weeping, as if there was something very affecting in it all; but after an hour's jabber they are allowed to disperse, and away they go to feast in their garden-houses, and spend the whole day in delight, without attending to any business. Then you may see the dust of the carriages and the footsteps of the horses all along the road, in one unbroken succession, presenting a very lively scene.

I should say that these lands of the western ocean have something agreeable in them, and something to be lamented. The climate is not cold, and the whole year is like a continual summer; all the flowers are in bloom during the four seasons; in the time of our winter and spring the nights are rainy and the days fine, truly this is an enchanting state of things and very agreeable. In their manners Europeans aim to be polite, and affect an elegant air; they seem delighted at meeting with their friends, and are lavish in their compliments to one another; if a man in his poverty make application to them, they do not reject him, whether he be of the same clan or only distantly connected, they do not look strangely upon him. When young people see a stranger, they compliment him with a bow, and when menials meet their masters, they honour them by kneeling; this is according to the liberality of human feeling displayed in ancient times, and is truly praiseworthy. The soil is rich and fertile, and necessities are cheap and easily procured; a peck of rice can be bought for a few cash, fowls and ducks are cheaper even than vegetables, and for a mere trifle you can obtain an attendant; this is a cheap state of things, and very agreeable. But there are no writings of philosophers and poets, wherewith to beguile the time; nor any friends of like mind, to soothe one's feelings; no deep caverns or lofty towers, to which one could resort for an excursion; all which is very much to be lamented.

* Intimating that they try to hide their vices from themselves, and think that they are as much concealed from others. They have a story in China, that while a man was stealing a bell, he stopped his own ears, to prevent his hearing the noise, and then thought that others were also deaf to the sound.

† The five cardinal virtues among the Chinese are benevolence, righteousness, propriety, wisdom, and truth.

THE
JOURNAL
OF THE
THE INDIAN ARCHIPELAGO.
AND
EASTERN ASIA

REMARKS ON THE METALLIFEROUS DEPOSITS AND MINERAL
PRODUCTIONS OF THE TENASSERIM PROVINCES.

By EDWARD O'RILEY Esq.

THE principal metallic ores of these provinces of which the localities are known, are those of tin, antimony, iron and lead (galena); in addition to these however, specimens of the carbonate of lead, the sulphurets of copper and bismuth, and an ore of silver in combination with copper and antimony, have been obtained through the agency of the wandering tribes of Karens who inhabit the hilly regions of the provinces; the sites of the latter have still to be investigated; but it will be obvious from the following remarks that such researches must be the work of untiring application to secure the good will of these sons of the forest, whose local experience is so intimately connected with the end to be attained.

Under the Burman rule, it is customary on the discovery of any metallic deposit becoming known to the Government, to compel the Karens to work in the extraction of the ores at a rate of remuneration depending upon the consideration of the Government officers in charge, which is consequently reduced to the lowest possible rate; and in many instances such labor is enforced as a feudal right, without any payment from the Government. Such was the system pursued by the Burmese; and although a sufficient period has elapsed, one would suppose, since our occupation of the country, to admit of a knowledge of the British institutions affecting labor and property having more generally obtained, it is certain that the impression is still strong with those Karens, who from their localities are comparatively isolated from immediate contact with the executive power, that the same oppressive mea-

tures would be enforced were they to disclose any valuable metallic deposits, which from their constant traversing the jungles in all directions they may be supposed to be cognisant of. The Burmans and Taliens surpass all other nations in their belief of the soul-absorbing doctrines of alchemy :—this infatuation pervades all classes of society from the king to the fisherman : nor are the monasteries without their votaries to the science, who may be seen in the intervals of leisure from the religious duties, occupied with a pair of small double cylindrical bellows of bamboo, trying to reduce some refractory piece of ore of a composition to them unknown, but which, aided by ingredients stated in their works on alchemy, will they believe, accomplish the long-sought revelation of the mystery ;—a failure ensues of course, but their faith is not shaken, and to some other empirical formula they have recourse fully imbued with the belief that eventual success will crown their efforts. Whether this infatuation has penetrated the jungles and found as congenial a recipient in the simple race which inhabit them ; or whether a feeling less exalted but more matter of fact, in the chance discovery of some unmistakeable ore of silver be the reason for the unvarying ignorance they express, I have not been able divine ; but sure it is, that in almost every Karen village I have visited the indispensable pair of bamboo cylinders were present, which are applied to the reduction of every piece of heavy mineral they pick up, and I was informed by one of the community, that all stones which did not produce a *metallic liquid* were cast aside as worthless, and the sites of their deposits disregarded, in which circumstance we may have cause to regret the loss of some valuable deposits of the sulphurets.

Such are the obstacles to the discovery of the valuable metallic deposits in which these provinces abound :—that they were both well known and usefully applied by the Burmese Government in former times may be inferred from the names still extant of several creeks on the coast, and other localities—those called Ban Kyouk Khyoung (or silver stone creek) and Ban Toung or silver mountain, being significant of their productions. Want of communication by road between the several coast provinces is also a great impediment to a knowledge of the riches of the country, and until the jungles have been more reclaimed by an incumbent and increasing population, it cannot be expected that such improvements will be effected.

Tin.

From the remains of old workings still existing near the Tin beds of the lower province of Mergui, it is evident that this source of wealth must have claimed the attention of both Siamese and Burmese Governments for ages past :—In the middle of the 16th century, the Portuguese, who had established themselves as traders at Pegu and Martaban, appear to have visited this locality and

Junk Ceylon with the object of collecting tin, which then as now in the latter place, composed the principal medium of trade and currency. The wars of the Burmese and Siamese, and the constant forays of the latter, carrying off the population into slavery, have tended to restrict the production of the metal from this locality to an amount insignificant in the extreme, when compared with the capabilities it possesses; and it will be seen from the following remarks, that not only do these provinces abound in deposits which, if worked, would surpass the production of any other part of the known world, but further, that the richness both as regards extent and depth of the beds and purity of the ore, exceeds that of any other tin producing country in the east.

The known localities of the stream tin are as follows :—

1. The mines of Maléwan and the tributaries of the Pakchan river.
2. On the Bok-pyn river to the northward of the above.
3. In the upper branches of the Lenya river.
4. On the Thengdau river in the vicinity of the coal mine on the Great Tenasserim.
5. At Thaban-liek on the little Tenasserim river.
6. At Kamoungtan, Engdau and Thapy-an in the same locality, but not so accessible as Thaban-liek.
7. At Yamon about 20 miles from Mergui, on the south side of the Great Tenasserim river, of an inferior quality, being mixed with wolfram sand or tungstate of iron.
8. In the Toung Byouk valley, a little to the southward of Tavoy river.
9. At the head waters of the Great Tenasserim to the eastward of Tavoy—noticed by both Dr Helfer and the Revd. Mr Mason.
10. In the upper courses of the streams which flow into the Bay of Henzai (a beautiful spot on the coast situated between Tavoy and Ye) the ore obtained from this locality contains grains of gold and garnets.

Mine Tin

11. Is found in the hill of Kahan near Mergui in a decomposed granite matrix passing through the sand stone. This hill is in fact a repository of mineral wealth which not even the richest (Tin) mines of Cornwall can excel, as will be seen from the remarks which follow.

Up to the point of Henzai in lat. 14° 50' N. the stanniferous formation appears to exist uninterruptedly from the Pak-chan; about this position however the primary sandstone range intervenes and produces an entire change in the character of the streams and their deposits, but it may reasonably be expected that the valley formed on the coast line by the sandstone, and to the eastward by the granite primary schists of the peninsula range, will prove on examination to possess tin deposits equally rich with those described.

These tin beds are composed of the debris of granitic rocks mixed with the ore, which varies in size of crystal from that of fine sand, to that of an ordinary quartz pebble; their extent is unknown, and the depth of the metallic deposit at the principal workings, from seven to twelve feet; those at Mallevan being superior in this respect. Some of these deposits contain a small quantity of iron either as an oxydulated iron sand, or tungstate of iron; but the general quality of the ore may be stated as being a pure peroxide, yielding a produce of 70 to 75 per cent of pure metal:—specimens of cleaned ore sent to England have been reported upon as yielding 75 per cent of metal, and worth in that state £46 per ton.

The following statement shows the ascertained relative qualities, and the cost of production of the tin deposits of Banka, the Malay Peninsula, and these Provinces at a cost of per cwt.
100 parts Banka ore yield 58 parts of metal... ..Rs. 11. 6 As.

do. Malay Peninsula	do 65-77	do. „	13. 4
do. Mergui Province	„ 70-75	do. „	} 13. 10
do. Kahan lode Tin	„ 80-82	do. „	

the latter cost of production is deduced from the experimental labor of several parties hired for the occasion, and is averaged from the produce of several stream localities;—such data is obviously defective, but the draw-backs attending all trial operations of the kind, will prove perhaps considerably above the rate at which the Chinese miners produce the metal; from whom however a truthful statement so immediately affecting their own interests is not to be expected; but from the greater facility afforded in the extraction of the ore at Kahan and its greater purity, it will be seen from the following extracts from the Captain Tremenhère's report that the cost of production would approach that of Banka.

Extracts from Captain Tremenhère's report to Government on the tin deposits of the Mergui provinces. (31st August 1841.)

“The streams themselves are rich in tin, which may be collected from the beds in considerable quantities. The process by which it has been deposited for long periods and for many miles along the line of valleys throughout which they flow, appears to be in active operation at the present day—crystals of the per-oxide of tin washed down by the rains and deposited with sand and gravel in their beds may, by changes of the rivers caused during the freshes, be quickly covered with a few feet of gravel and soil. The older deposits have, as far as my observation extends at present, the same alluvial character, and it would be well in future operations to have regard to the levels in which the streams may have formerly run.

“First locality visited.—The Theng-dau river on the great Tenasserim. Ashan employed for the purpose collected at this spot 11,889 *grs.* of ore, equal to 190.198 *grs. pure metal*, in an hour and a half.

Second locality visited. Tha-ban-lick, on the little Tenasserim. Greatest production in the bed of the stream the produce of a day's labor of two men ascertained: 5 lbs., 2. oz : 383 grs. of pure tin, at a cost of 12 annas, exclusive of the expenses of reduction to the metallic state.

From the trial of the produce of one man's labor in a given time, there appears to be sufficient to justify every expectation of a profitable employment of labor on an extensive scale: the result can only "be considered rough approximations to the probably outturn of tin with an establishment properly superintended."

Kahan, a small hill on the right bank of the Great Tenasserim, 4 miles from Mergui. "The tin occurs here differing much from that of the localities above mentioned; the hill is composed of a soft friable white sandstone rock, the ore is found in the crystallized form interspersed in decomposed granite, forming a vein about 3 feet wide enclosed by the sandstone rock.

"In about a quarter of an hour a few baskets of the decomposed granite were removed, which produced an amount of crystallized peroxide of tin equal to 63,176 grs. of pure tin.

"This locality appears to be of a very promising description, and I have little doubt that if the work were aided with ordinary skill and means, a tin mine here would be exceedingly productive. A vein of tin is in fact exposed to the day, and would only require for a considerable period of work, the precaution of well supported galleries and shafts to allow of its contents being easily extracted.

"The *Kahan* hill is I conceive an indication of a valuable repository of tin. It is but a quarter of a mile from the creek communicating with the river, which is accessible to any boats. Its proximity to Mergui offers also great facility for procuring labor and supplies.

"The localities therefore which appear to hold out the best prospect for tin are, for stream tin the Tha-ban lick and Thengdan, and for mine tin *Kahan* hill. They all produce tin of the same nature and quality, viz. crystals of native peroxide, being a combination of oxygen and tin only.

"The crystallized form in which the ore has been found renders its separation extremely easy, and the whole process of stamping and dressing, which in England are tedious and expensive operations can thus be dispensed with—no arsenic or sulphur being mixed with the ore, it need not be roasted before it is placed in the furnace.

It will thus be seen that the tin of Mergui offers no ordinary inducement to the outlay of capital, without much of the risk, uncertainty and large previous outlay usually attending mining adventures."

Extract from Captain Tremenhoe's second report to the Military Board on the tin of Mergui, October 1842. After noticing the rich deposits of "*Kahan*" Captain T. proceeds as follows:

"Experimental operations have been in progress there by the

order of the commissioner Mr Blundell, with a view to ascertain the value of the spot for mining purposes, and I am happy to have it in my power to state, that they have been attended with the most complete success ; more than 8 cwt. of clean ore ready for smelting has been collected by a gang of convicts, in which are bulky specimens of maced crystals, *which in weight and size surpass anything I have ever seen in Cornwall or in cabinet specimens.*

"The upper portions of the decomposed matrix of the ore which have been exposed to view at the surface, appear but indications of a most valuable repository of tin, from which have been extracted specimens of great weight and richness, consisting of large maced crystals of tin on quartz, and contain more tin in proportion to the bulk than *any specimens I have before seen*—the largest, which measured about 14 inches square by 12 deep was so heavy, as to require some exertion to hold it steadily in both hands. The stratum of tin soil was ascertained to be upwards of 12 feet thick ! The "Kahan" ore gave on analysis only 0.91 per cent of metallic iron, and is believed to be pure from the tungstate of iron and sulphur."

Extract from Captain Tremcheere's report on the tin deposits of the Pak-chan.

"Malewan and the tributaries of the Pak-chan. The greatest quantity of clean ore obtained from one trough full of soil was 2,078 grains ; the time occupied in each washing 5 to 6 minutes.

"They (the work men) stated that in the rains one man would earn four rupees worth of tin per day. These productive streams are however but the index of what is to be found elsewhere, and if these localities ever attract the European capitalists, of whose notice I believe them well worthy, the proper sphere for the scientific miner should be in the hills themselves. There, if a little cautious investigation were previously made by practical men in search of a spot for mining operations, the use of the common horse "whem", or the most ordinary draining operations, would in my opinion, in the course of a very short time, discover veins *which it would be very profitable to follow out with more complete apparatus.*"*

Of the value of such testimony as the foregoing there can be but one opinion ; coming as it does from an officer of known scientific attainments and well acquainted with the vast mining operations of his native country. The wonder is, that the Supreme Government of India should have allowed these reports to pass into oblivion for so long a period, instead of causing them to be circulated through the capitalists at home, with offers of the most liberal consideration to any parties undertaking their development.

• The late Dr Helfer in his letter to Mr Commissioner Blundell on the tin deposits at the head of the Great Tenasserim writes thus "I have made one excursion to the eastward from this place (Tavoy) crossing over the Tenasserim river to the supposed boundary : my chief aim was the tin mines, and I am greatly satisfied with them ;—they are very productive and very extensive ; only, because the people do not understand to work them, and because no European who understands it knows of them, they lie waste ; but on a large scale worked with a capital of 20,000 rupees to commence with, one would soon become a "millionaire."

Such a process would ere this have resulted in creating a name for these Provinces as a tin producing country of the first scale of importance ; and in comparison with the tin localities of the Malacca peninsula, (with, for the most part, a semi-barbarian at the head of each petty state whose will is law, and whose cupidity, excited by the exhibition of any considerable amount of property, is rarely satisfied with less than the wholesale massacre of the miners for its attainment; such acts have on several occasions been perpetrated,) the contrast, with the security enjoyed under British rule and freedom from all oppressive taxes or other restriction on labor or produce, will claim for these provinces a preference it would be folly to dispute.*

The causes which have operated to retard the developement of this source of wealth are as follows:—

1. The isolated position of the localities enriched by the tin

* The territory of Malacca claims a passing notice here from its rich mineral deposits (tin and gold) as well as for the fertile nature of its soil generally, and the invaluable acquisition for general purposes of cultivation which it possesses in the rivers which water its magnificent plains; during the Dutch occupation of the country, which then extended interiorly as far as Nanning, its resources were undergoing a gradual development, by the operation of a system of protection and encouragement to Chinese miners and to agriculturists, which, had their rule been uninterrupted to the present period, would have rendered that portion of their possessions second in importance only to the island of Java; this will be evident from the fact, that at the period of the transfer of the country to the British Government, the tin mines of "Sungie Ujong" alone produced 6, to 7,000 piculs of metal annually, worked by 800 Chinese, but in the course of the succeeding twelve years of British rule, the produce of the same locality rarely exceeded 3,000 piculs, with the number of Chinese miners reduced to 300---and so with the produce of the adjoining districts of "Rumbow" "Johol" and "Jelibu."

Whatever may be the defects in the system of Government applied by the Dutch to their colonies; that one of apathetic conduct in regard to the perfect development of the resources of their possessions cannot be laid to their charge, as witness their boards of forests, "of mines" of cultures &c, and it may fearlessly be asserted, that had the British Government adopted the measures of legislation they found instituted on assuming the administration of that territory, such measures, strengthened by the more liberal policy which characterises the British domination, would have resulted in placing the province of Malacca in the first class of importance for its valuable productions.

To those acquainted with the early Government of the Straits, the cause of this decadence and long torpor to which the province of Malacca has been subjected must be obvious enough, but may be briefly stated as:—

1st. The over-legislation which obtained in the first instance in regard to land tenures and other processes of local arrangement, which demanded the most liberal consideration instead of the opposite course; this, for many years hung as an "incubus" on the growing energies of the Straits settlements.

2nd. To the absence of all beyond a superficial knowledge either of the language of the people, of the country, or its capabilities, on the part of the chief local authority.

To this latter absence of one of the principle elements of effective Government, must be attributed the dismemberment of Rumbau and its dependencies from the Malacca territory, which was given in January 1833 to the chieftenship and rule of Rajah Ali and his son-in-law Syed Saban ; opposed to the claims of the legitimate chief Kodin ; thus was sown the germ of anarchy and all its attendant evils, which ever since the expulsion of Rajah Ali by the latter chief in 1836 has continued to shed its baneful influence throughout all the adjoining petty states, where restrained by no law, and subject to no effective rule beyond the "dicta" of the self constituted "Panghulu," no security for person or property exists, and the treasures of the earth are brought to light scantily and fearfully.

deposits, those on the Pak-chan, being rarely visited by native traders beyond the smallest description of boats from Mergui, and those to the north of Mergui without a resident population are therefore but little known.

2. The absence of capital in the provinces, both with European and other merchants, to apply to any source of investment out of their immediate control, and as the timber trade of Maulmain engrosses the attention of all classes to this staple branch of its commerce, all operations involving a circulation of capital are necessarily concentrated in that quarter and in that article.

3. The absence of wealthy Chinese residents in those provinces, as in the Straits, with available means for the amelioration of the condition of their poorer countrymen, by advances to enable them to commence some undertaking (mining or agricultural,) as a means of subsistence :—those Chinese emigrants who find their way to this coast I have found from dear bought experience, to consist of the lowest in the scale of even that low class of Chinese which the teeming population of that Empire distributes yearly through the Malayan Archipelago; exceptions are very rare amongst them of individuals who are not victims to that pernicious habit of opium smoking which characterises their nation; and of those individuals who find their way to the lower provinces, the majority are contented to drag through a miserable existence on terms extorted from them by the heads of the “Kongsis,” which their habits induce; and consequently, with but one object in view, that of passing this life in unrestricted indulgence of the drug oblivious of passing cares; dead to all that inspires an emulation with their fellow-men; these wretched creatures become isolated and shamed by those of their own class who have still a spark of ambition left to urge them to rise superior to the brute creation.

In the foregoing I have endeavoured to point out the causes of the sterility of production from this “ElDorado” of mineral wealth, and when the fact be considered that government restriction exists to retard a progressive success to any operations of the nature implied, it will be a matter of surprise to the casual observer that the attention of capitalists has not been directed thitherward; the reason is, simply because the information now brought to light has never met the publicity it claims.

It now remains to be shewn how the undertaking could be effected, the means to be applied, and the probable return of an investment of capital therein.

The present period offers peculiar facilities for procuring labor to any extent, in the numbers of Chinese who would gladly remove into these provinces from Siam, did any inducement offer. It may not be generally known that upwards of 50,000 Chinese (in consequence of the late revolt of that class against the Siamese government, caused by the oppressive measures of the king in his monopoly of the sugar trade), have been completely ruined, an inconside-

rable number from their body have for sometime past found their way into the Mergui province, where, in their location on the banks of the Tenasserim river, they have commenced plantations of sugar cane. A twofold benefit would accrue by employing this class of Chinese from the circumstance of their avocations being purely agricultural, which, combined with the aptitude of the Chinese in general to all kinds of labor, would ensure the useful application of the rich lands in the tin localities to the production of the necessaries of life, and thus render a dependance upon other places for supplies unnecessary.

Were any arrangement effected for the employment of a number of these refugees, it would in the first instance be necessary to provide them with lodgement and supplies of food, as an advance upon their contracts, as they would arrive in these provinces in a perfectly destitute condition; and for the risk attending this outlay of capital without any tangible security for its return, I do not hesitate in stating, that besides most liberal terms, the government would afford every protection and assistance to the undertaking to secure the benefits which would result therefrom to the provinces generally.

In the trifling operations which are now conducted at the tin mines on the Pakchan, the payment to the laborers is I believe, made by a certain portion of the pure metal, in other words a percentage upon the produce, and for the reasons already stated it may be supposed to be less in amount than the average rate of cost deduced from the trial experiments conducted by Captain Tremenhère viz, Rupees 13. 10 *per cent*. Such a system of an established percentage upon the produce is obviously the best, and should form the base of any arrangements effected:—taking however as a data the above rate as the cost of production per cent of pure tin, it is only necessary to compare it with the rate of value for tin which with little fluctuation, has existed in the Straits markets for the last 20 years, to ascertain the probable amount of return, and in placing the rate at Drs 15½ or R's 33 per picul of 133 lbs. it will be if any thing somewhat below the average. The cost of production of the tin for the same quantity—R's 16. 3,—would leave R's 15. 13 per picul to cover all charges until sold in Pinang, and leave an amount of clear profit to the undertaking which I may venture to state is not surpassed in any operations of the kind in India at the present day, the known large profits of the Dutch from their mines in Banka alone excepted.

An objection might possibly be urged by capitalists at home to an undertaking having for its object the production of an article so largely produced in England, to an extent that besides meeting the full demand for home consumption has also a considerable surplus for exportation. Such an objection can at once be met by pointing to the steady demand for the article throughout the markets

of India and China, which, whatever may be the fluctuations in value in the home market; serve to maintain a regulated and steady value in the Straits markets, which not even an amount of production to double the extent of the present extensive one, would materially affect.

With the foregoing exposition of this sterling description of mineral wealth which these provinces so abundantly possess, it is to be hoped that the period is not far distant when the attention of capitalists will be directed to the subject, and that in the prosecution of an enterprise in a locality enjoying an equable and salubrious climate, a rich and inexhaustible soil, and blessed with the perennial verdure of the tropics, a new branch of commercial resource will be created, which will claim for this beautiful portion of the British territory, a consideration its rising importance merits.

Manganese.

The ore of this mineral as a grey oxide is found distributed in the secondary formations pierced by the tributaries of the Thoungeen and Gyne rivers, it also occurs on the great Tenasserim river in the vicinity of the coal mine, and is noticed by Captain Tremehere as follows.

"The best ore (Manganese) is found on the Thuggoo river and on the bank of the Great Tenasserim. It occurs in the form of a black oxide, and is the manganese of commerce: It is in large demand in Europe in the preparation of bleaching compound, and when pure is valuable to the manufacturer of glass: quality—a hydrate of the peroxide of Manganese "black wad" of Sp. gr. oz. 1. 47 and contains by analysis—

2 equivalents of water. . . . 9 per cent.

Iron. 1. 96 grains.

Spec. gravity of the grey oxide. 2. 46

There is sufficient at the locations referred to, to indicate extensive deposits which can be collected by removing the soil lying above it and near the spot in which it lies exposed."

From the extensive use of this mineral in the arts, and the facilities of extracting it from the beds described, it may be presumed that a shipment of it to the London market would afford encouragement for more extended operations therein; the only charges incident to its being placed on board ship being those of labor in extracting, which, from its position near the surface would be comparatively trifling, and the subsequent water carriage to a depot from where it could be shipped. This appears to be well worth the attention of the British merchant, who in the event of a successful result, would have the honor of adding this article to the staple returns for imported merchandize.

Antimony.

The sulphuret ore of this mineral appears to be pretty general throughout the provinces; accompanying the sandstone of the older formation, in which it is found forming veins of various

dimensions, which ramify in all directions from the principal vein. Several localities in the sandstone range of hills enclosed by the Attaran and Maulmein rivers have been worked, but it would appear that the expenses attending the operation are too heavy to admit of a profitable investment of capital therein, the localities of these deposits being generally at some considerable distance inland, without roads and water or water conveyance in the vicinity, and the labor attending its extraction from a hard matrix of the nature of the sandstone, oppose a formidable barrier to this article ever becoming important in the exports of the provinces; and until it be found in the mass on the banks of some of the navigable rivers, or similarly situated to the deposits of Borneo, the competition with the Singapore market to supply the limited demand in the home markets must remain as now, impracticable.

Specimens of this ore have been brought to me from several sites on the small creeks of the Gyne, Haundrau, and Zimmee rivers, this latter according to native authority being close to the water and in an entire mass, but without personal investigation such information merits but small reliance, the difference between native description and actual reality being in general too extravagant to allow any credit to be placed in the former.

Iron

Is the most abundant of the metallic ores and occurs throughout the whole length of the provinces; it comprises a large variety of the oxides principally, and is present in available beds and masses.

1. In the mountain limestone range of hills near the Thoungyein, as a close grained specular oxide.

2. The Gyne, Dagne and Houndran rivers all possess beds of iron, those of the most useful being of the clay stone variety.

3. A bed of brown iron stone (a rich oxide ore) described by Dr Helfer as existing on the banks of the Salween near the mouth of the Yenbayne.

4. On the island of Beeloogyoon as specular iron or ferologiste in a hill composed of red iron clay (also described by Dr Helfer.)

5. At several localities on the rivers Attaran and Zimmee, and their tributaries; the principal beds being composed of a rich magnetic peroxide (hematite) containing 85 per cent of pure metal.

6. Near the old city of Wagrau on the creek of that name, as bog ore.

7. Near the town of Tavoy on the right bank of the river, a mass of native loadstone occurs possessing polarity; this is far the most important deposit of the metal existing in the provinces, from its being nearly a pure mass of metal, and situated with every facility for working. A hill at a short distance from the above is composed of an entire mass of the "specular oxide ore," and the whole surface of the country to the sea gives evidence of vast deposits of the metal of the richest description.

8. The Toungh-byonk river passes through extensive deposits of rich "glance" and in its bed are found large quantities of cubical ore, pyrites, and concretionary nodules of clay iron stone.

The foregoing are the principal known localities of the ores of iron; besides those enumerated however other sites less accessible are abundant; and in all the rivers flowing through the upper beds of the secondary foundations, as well as in the schistose rocks, pyrites and oxydulated iron are present in large quantities, the latter is also found in the sands of the beach, having been deposited there by the disintegration of the gneiss, and mica, and chlorite schists of the littoral formations.

With all this tempting display of the richness of these provinces in an article of such universal utility, it must be confessed that the prospects of profitable returns to any undertaking for the production of the metal are obscure and uninviting; facilities are not wanting at the various localities mentioned which would serve to gild the bait of speculation, and which in the glowing license of a descriptive prospectus, might charm the capitalist to an investment of his funds, but opposed to these are the weighty considerations which follow.

1. The large expense necessary to the formation of an effective establishment for the reduction of the ores of iron, would be doubled in a country possessing none of the resources to aid the undertaking; all of which must be imported from home.

2. The paucity of inhabitants and consequent high rate of labor for services, which for the first 2 or 3 years would of necessity be experimental and probationary.

3. The cost of material (coke) for mixing with the charcoal as the reducing agent, and lastly, with all this accomplished, and the work proceeding smoothly on its course, would the material so produced compete in the markets of the East with that imported from home, or with the article produced at the "Porto Novo" works on the Madras coast? I think not, and moreover that the scale of success which has attended that undertaking to supply India with its own native material, ought to be considered a criterion for the guidance of all new operations of the same kind possessing even more advantages than that establishment.

Lead.

The ore of this metal accompanies the metalliferous limestone ranges which in separated masses, are found throughout the Provinces:—their principal character is that of the "sulphuret" or "galena" ore in every variety of crystallization: obtained specimens shew the following.—In "cubic" crystals imbedded in and disseminated throughout a matrix of highly indurated grey limestone.

In "lamellar" masses easily separated, in the same matrix as the foregoing. "Granular" and "compact" with brilliant metallic surface and of varying spec. grav.:—also regular "octohedron ore,"

and an "amorphous" carbonate ore yielding 83 per cent of pure metal.

The known sites of the above deposits are

1. In the Paguh range of limestone hills which occur between the Yen-bani and Thoung yeen rivers, having a course parallel to that of the Salween river.

2. In the mountain limestone ranges situated between the Hloni Bwai and the Salween.

3. In the same formations crossing the upper waters of the Houndran river in the bed of which the carbonate ore occurs in mass.

4. On the Zemmee river in the cavernous limestone near its source, and

5. At the head waters of the Toung-Byouk stream, which pierces the upraised limestone beds.

Analysis of the three kinds gives as follows:—

	Lamillar ore	Cube ore	Granular ore
Lead.....	76. 00	81. 00	81. 57
Sulphur...	19. 00	16. 24	15. 00
		Silver	a trace

and a specimen of compact steel grained variety of galena from the Pagah range gave by analysis—

Lead.....	80. 24	} Spec. grav. 7. 2.
Sulphur.....	14. 06	
Silver.....	4. 12	

The indications of the deposits of this metal are too numerous to admit of a doubt of its existence in these provinces, to an extent that might offer good and sufficient inducement to its being worked. The little that is known however of the localities of these deposits, the facilities they offer for a successful undertaking, and their richness and extent, is so meagre, that without a strict and searching investigation of these points, no operation of the kind could be undertaken with that security, which must form the basis of all operations of the kind. With such evidence of the existence of these deposits, it would not be overstepping the bounds of ordinary expectation to look forward to the discovery of some valuable ores both of lead, copper, and silver, as the result of a minute examination of the vast metallic matrix formed by the ranges of mountain limestone within the British boundary of these provinces; the existence of the two latter ores has in fact being clearly established, but their sites for reasons already stated are known only to the Karens of the jungles.

The low value of the common galena ores in the English market, renders it doubtful whether mining operations for its extraction exclusively would be profitable, even with the advantages of water carriage from the vicinity of its deposits; but in the varieties which exist, perhaps in the same formation, "an argentiferous galena" may be discovered possessing a per centage of silver which would amply repay an investment of capital therein.

Bismuth.

The Sulphuret of Bismuth occurs with the ore of antimony in the sandstone range of hills described in noticing that ore; its importance as an article of commerce is of secondary character, but should it be found to be present in any considerable quantities, the reduction of the metal from the ore would doubtless prove profitable, its price for the home demand being from 2s to 2s 6d per lb. The ores of cobalt are usually found accompanying those of Bismuth, and from their high value, (if free from iron,) would, if discovered to exist in these provinces, offer a most valuable means for profitable investment. Silver also forms a component of one of the ores of this metal, and it is to be hoped that as our knowledge of these metallic deposits becomes more matured, the more valuable kinds as above stated will be brought to light and usefully applied.

Specimens of both *Copper and Silver* ores have been obtained from the Karens who appear to be unacquainted with their characters. The sites of their deposits however have still to be examined, and they are only mentioned here to complete the catalogue of mineral riches which these provinces possess. Specimens of copper ore have also been brought from several islands of the Mergui Archipelago, and all obtained appears to be of the same character, viz the grey copper ore, containing from 40 to 50 parts of the metal in combination with antimony, iron and sulphur.

An ore of silver, of which specimens have been received, was found to consist of silver, antimony, copper and sulphur; producing about 35 per cent of pure metal; its locality appears from the information obtained from a Karen, to be in the range of hills near the head waters of the Hloni Bwai river where old workings are said to exist.

Gold.

Has been collected in small quantities from several of the tin streams having their sources in the older formation of the boundary range of mountains; that obtained from the head waters of the Tavoy river, as also from the streams which empty themselves into the Bay of Henzai, where it is found mixed with the tin ore, is of a quality equal in every respect to the gold dust of the Malay peninsula. It does not however appear to be in sufficient quantities to induce the establishment of permanent washings, altho' the Siamese have for many years derived a considerable revenue from the produce of the streams which form the eastern watershed of the same range of hills. Opposed to a correct knowledge of the riches of these streams, is the insuperable obstacle of absence of population; the vast tract which forms their sources being a desolate wilderness of forest rarely visited even by the Karens themselves, and it may therefore be safely advanced that a century must elapse to admit of the present rate of progressive increase of the native population effecting an opening into those primeval wilds, ere their precious

deposits be brought to light ; unless some more adventurous spirit of enterprise than now prevails in the commercial world, becomes manifest to reap the substantial benefits which these provinces are capable of bestowing.

Analysis of the gold procured from the head waters of the Tavoy river gave per statement of the assay master of the Calcutta mint.	}	c. c.g. grs.		
		21. 0	$\frac{3}{8}$	Gold or 87.895 pr. cent
		2. 0	$\frac{7}{8}$	Silver „ 9.241 do.
		0. 2	$\frac{3}{4}$	base metals 2.864 do.*
				100,000

Equal in the scale of importance with any of the foregoing, and with the exception of the metal tin, surpassing in its abundance all other products of the provinces, is the mineral—

Coal.

The tract of country enclosed within the 11th to the 14th degree of north latitude, may be said to form a vast coal bed, or series of coal measures, and in that space, principally in localities through which the great Tenasserim river and its branches flow, coal has been discovered in six different out-crops, widely separated from each other and as widely varying in the quality of their deposits. Of the whole of the foregoing but one single locality, situated on the great Tenasserim river in lat. 12° 21' N. and long. about 99° E, and distant from the port of Mergui by water about sixty miles, has hitherto claimed the attention of Government in the extraction of the coal. The quality of the material thus obtained will be evident from the following analysis of it made by order of the Bengal coal committee in 1840.

spec. grav. 1. 27	
Water.....	9
Volatile matter.....	46
Carbon.....	40
Ash.....	5
<hr/>	
100	

Notwithstanding this favorable exposition of its quality and adoption to steam purposes, and the cheap rate at which it could be laid down for the steamers at Mergui, viz 5½ annas per maund, the undertaking was abandoned shortly after its commencement, on the discovery that the coal possessed the dangerous property of spontaneous combustion, to which cause the loss of the Steamer “Madagascar” on the coast of China, which had taken her supply of fuel from the coal of the Mergui mine, was attributed.

The experiment of working this mine, attended with an expense to government of some 45 to 50,000 rupees, appears in the result

* Or $3\frac{3}{4}$ c. grs. worse than standard.

stated, to have completely closed all further research as to the practicability of obtaining supplies of coal from this quarter equally cheap and of a less dangerous character, and this determination on the part of government is the more to be regretted, as from a subsequent report on the coal in question, by the able and talented secretary to the coal committee, Dr J. McClelland, he clearly explained that, apart from the circumstance of the general character of the coal extracted being of but second rate quality, the fact was apparent of a wrong seam having been worked; one indeed highly pyritous, which should have been regarded merely as an indication of a purer deposit, perhaps within a few feet of the one worked, and which a practical miner would have passed as being unadapted for steam purposes.

By far the most important discovery of coal in these provinces is that which was examined and reported upon by the late Dr Helfer, situated at the source of the little Tenasserim river, where it is found out-cropping at the surface in five different localities, forming the same bed:—the quality of this deposit appears from the following analysis of it to be unexceptionable, not excelled in fact by the best English coal for steam purposes

Bituminous volatile matter.....	47
Carbon.....	52
Ashy deposit.....	1 8

In parts 100

The quantity exposed to the day would indicate an inexhaustible supply below, and as the process of extraction in the first instance to the extent of many thousands of tons could be confined to open workings, without the necessity of expensive appliances of machinery, the question naturally arises, why has this invaluable deposit been neglected, and what are the present existing causes that retard a further investigation of it?

In explanation of the former, it will be necessary to refer back to the period, (1840) when this discovery was made; closely following that of the deposit on the great Tenasserim river, which latter possessing superior facilities of location, and on first examination supposed to be of excellent quality, commanded the preference of working, and having been abandoned as already noticed, after incurring a heavy loss to government, it can readily be imagined that any fresh undertaking of the kind would meet with but small encouragement from government under the circumstance of recent loss. Again, it would appear that accompanying the notice of this discovery to government, some doubt had been expressed in regard to its position being within our boundary, upon which data the report of the coal committee thereon was found to the following effect. "Although the quality is excellent, yet its distance from the coast is such as to render it of very doubtful utility on the

Bengal side of the peninsula, whatever benefit it may eventually prove on the gulph of Siam, as it seems to be situated beyond the boundary range of hills." This notice by the coal committee elicited the following observations from Captain McLeod (former assistant to the commissioner in charge of the Mergui province) accompanied by a sketch map, shewing the position of the coal site in lat. 11. 51 N., long. 99. 36 E., to be on the banks of the Thain-khan or little Tenasserim) and consequently on the western watershed of the boundary range.

"That there is no possibility for the Siamese to benefit by this coal field, even supposing that it belongs to them, is almost certain, for they have no water communication to the place—but the coal if ever required, must be transported by a land route, and I presume over hills, though of what magnitude I will not venture to surmise. That it may not be supposed that I speak from information alone, I beg to observe, that I proceeded myself by water within 8 or 9 miles of the spot, when finding the stream too shallow to admit even of small bamboo rafts ascending it, I continued my journey by land to the old Siamese town of Thain Khan standing on the stream we had quitted, and from thence to the coal site crossing many small nullahs on the way, *which discharge themselves into the Thain Khan (Little Tenasserim) on the banks of which the coal is found.* This stream appears to come from some distance beyond this locality, for our subjects from Mergui annually proceeded up it beyond that spot for the distance of two days journey to cut the bastard sandal wood (which is an article of commerce) and which they bring down on rafts, when the stream is swollen by the rains, *without any question from the Siamese. No boundary has been fixed of this frontier.* At the close of the Burmese war, the British considered themselves as having a right either to what properly belonged to Pegu or Burmah; or what those incorporated nations held at the time of the capture with us, and was wrested by us from them; or was included within the districts ceded to us. It is well known that considerable space intervened between the two countries, having become depopulated by the constant aggressions of either party; and which was left unoccupied from motives of safety and convenience.

"This is not the only point in which incorrect geographical information has misled us into wrong conclusions as to defined boundary marks. We have to the north and east of Maulmein considered the Thoung-yeen river as the line of demarcation, and when this line is lost at the source of that river, a range of mountains supplies its place, and which is supposed (for I may safely say no part of the line from the 14° of latitude downwards has been examined) to continue in an unbroken line to the southern extremity of our territories. It must be admitted, that this change from a river to a range of mountains which, coming from the N. W. runs at

some short distance from and parallel to it, and in which numerous streams take their rise and, descending the hills, contribute to swell that river by their tributary streams, is not the best line that could have been selected. *But it is now discovered that the range of mountains themselves was considered by both Burmese and Siamese as the boundary.*" And in allusion to the map published by the coal committee in which the site of the coal is erroneously placed Captain McLeod states.—"I think we should be culpable in the present case to remain silent, and allow a map to go forth disseminating error, and which might be hereafter brought forward as clearly defining the boundary line."

It will be evident from the foregoing extracts, that the question of property in the tract of country under notice rests with us, but that for the more perfect knowledge of the locality, the practicability of working the coal economically, and the facilities present for so doing, a strict and searching examination is necessary ere the great point of cheapness of production can be settled ;—this point ascertained upon the best possible data, there can be little doubt but that government would avail itself of so valuable a resource, which in these times of rapid progression in steam navigation would obviate the present dependance upon supplies derived for the most part from the coal mines of Bengal, and from the casual and uncertain importations by English vessels which arrive here for cargoes of teak timber.

Within the space enclosed by the little Tenasserim and the Pakchan rivers several sites of coal have long been known to exist, the principal ones being on the Lenya and its branches. It is also reported to be present in large quantities on the Nawoon Khyoung (a branch of the little Tenasserim) which has its mouth at a distance of about 25 miles from the old town of Tenasserim, with a course in a S. E. direction for several days journey from its entrance ; a reference to the accompanying map will shew that such a course for the Nawoon stream would either enter the Lenya river, or approach it so near as to make the distance of land carriage between the two streams very inconsiderable. It will also be seen that, supposing the courses of the Lenya and Bok-pyn rivers to possess any ordinary degree of accuracy, that their waters become mingled through their numerous branches which intersect the country throughout the whole course of the principal rivers, and it would be both important and interesting to ascertain in the first instance whether the coal of the deposit on the Nawoon stream could be more economically extracted through the course of the Lenya, and that stated to exist on this last river, through the Bok-pyn, than by the line of their own particular streams. A glance at the map would lead to this conclusion, but it must be borne in mind that with the exception of the coast line and general course of the rivers at their entrances, the positions of which are laid down from the accurate observations of the late Captain Lloyd, neither the

upper courses of the streams or directions of the ranges have better authority for their geographical positions, than that derived from native information.

With the forgoing imperfect exposition of the richness of these provinces in so important an article as that of coal, there can be little doubt but that the further application of a practical and scientific examination, based upon even the little knowledge we possess on the subject, would result in disclosing an inexhaustible supply of the material, of an unexceptionable quality, and in all probability capable of being supplied at a lower rate to the consumer than that which obtains for the coal of Bengal, or that imported from the mines at home. Such an enquiry might be rendered doubly interesting and useful by combining with the object stated, the determining the proper geographical position of the boundary between these provinces and the Siamese frontier, which, after so long a period of occupation has been so unaccountably delayed, and in the event of any valuable discovery, mineral or otherwise, being made within the area of the present supposed line, ere the point be finally settled, might lead to interminable dispute, and probable acts of aggression on the part of our half-civilized neighbours.

Clays.

Fire and plastic clays of the most useful descriptions are present in beds pierced by the Attaran and Gyne rivers ; the former as a valuable clay for crucibles and other furnace purposes was brought to Maulmain many years ago, and found after several trials at the Calcutta mint, to possess every good property of the best English fire clays. Porcelain clay is met with at several places on the coast, where it occurs mixed with the laterite, and bears evidence of having been deposited by the decomposition of a rock of the primary order possessing a predominancy of "feldspar" in its conformation.

Lime

Of the best description for hydraulic and other purposes, and to an unlimited extent, is obtainable from the cavernous limestone formation so prominent in the geological features of the country, above Moulmein. Every facility is there offered for the calcination of the limestone and subsequent carriage by water, the jungles in the vicinity, but principally that forming the mangrove jungles on the banks of the river, being eminently adapted for the first process ; and as the waters of the spring tides wash the base of the limestone of Damatha, land carriage forms no item in the expense of production of the article.

Lime, the produce of these caves, is sold at from 5½ rupees per 100 baskets containing about 750 viss or 2,730 lbs., but it has been ascertained that with the insufficient process in use with the Burmese, the same quantity could be produced for 3½ rupees and afford a reasonable remuneration at the rate ; it may safely be

inferred therefore that by means of a properly built lime kiln and effective management, the article could be laid down in Maulmain at a rate that would offer a chance of profitable return as an article of exportation to Bengal.

Marble.

In the mountain masses above noticed the prevailing texture of the rock is that of a fine grained compact stone of a varying grey color, intersected with fissures filled with a pure white carbonate of lime ; and in the underlying masses several shades of red and an almost pure white, or that known as Saccharoid marble, are found, the latter being in extensive use with the Burmese in the manufacture of ear ornaments and small images of Gaudamah. Many of these limestones are capable of receiving a high degree of polish, and were a demand created for the article, there is every reason to expect that an exploration of these deposits would lead to the discovery of some of the rarer kinds of marble which are so valuable at home for ornamental purposes.

Alabaster

Of an inferior quality is found in the stalactite formations of the limestone caves, and is employed by the Burmese for the purposes already stated. Whether either this article or the equally abundant one of the stalagmitic deposits of the same localities will ultimately be found worth attention, must for the present remain a matter of speculation, to be determined by one of those happy accidents that occasionally occur to bring to light some long neglected source of dormant wealth.

GENERAL REPORT OF THE RESIDENCY OF SINGAPORE, DRAWN
UP PRINCIPALLY WITH A VIEW OF ILLUSTRATING ITS
AGRICULTURAL STATISTICS.*

By J. T. THOMSON Esq. F. R. G. S. SURVEYOR TO GOVERNMENT.

RELATIVE QUALITY OF SOIL. The rankness of vegetation is apt to mislead us in regard to the nature of the soil, when we judge of its quality. On this subject Marsden, the eminent historian of Sumatra,† remarks of that island whose formation and climate is nearly if not quite analogous to that of the Malayan peninsula and adjacent islands; “that he cannot help saying that the soil of Sumatra is generally more sterile than rich,” Again, he continues—“Every person who has attempted to make on Sumatra a garden of any kind must know how ineffectual a labour it would prove to attempt turning up with a spade a piece of ground adopted at random. It becomes necessary for this purpose to form an artificial soil of dung, ashes, rubbish and such other materials as can be procured. From such alone he can expect to raise the smallest supply of vegetables for the table. The natives it is true, without much or any cultivation raise some useful trees and plants; but they are in very small quantities immediately about their villages, where the earth is fertilized in spite of their indolence by the common sweepings of their houses and streets and the mere vicinity of their buildings. I have often had occasion to observe in young plantations, that those few trees that surround the house of the owner or the hut of the keeper considerably overtopped their brethren of the same age. Every person at first sight, and on a superficial view of the Malay countries, pronounces them the favorites of nature, where she has lavished all her bounties with a profusion unknown in other regions, and laments the infatuation of the people who neglect to cultivate the finest soil in the world. But I have scarcely known one, who, after a few years residence has not entirely altered his opinion. Certain it is that in point of external appearance the Malay islands and Sumatra among the rest may challenge the world to a comparison.” The historian may have taken extreme views regarding the sterility of the soil of Sumatra, but he proves that where the indigenous forests attain their full height and luxuriance as in Singapore, the soil may still be of a poor description, and though since he wrote, the most valuable of our staple products, nutmegs, have been successfully raised at Bencoolen, the capital of the late British settlements in Sumatra, still this should have little weight when we consider that its cultivation out of its native locality is purely artificial, and has been carried on with advantage in many parts of the Straits, even in the poorest of soils, solely by the application of

* Continued from p. 628.

† Hist. of Sumatra, p. 69.

stimulating manures, owing to the highly remunerative prices that have for many years ruled—but when the stimulus is not persevered in, in all the soils of both Pinang and Singapore, excepting in one or two favored localities, it soon fades and becomes totally unproductive. This cannot in any measure be attributed to the climate—for where the soil is rich and this is only to be found in a few small circumscribed tracts in Pinang—the tree is found to grow and bear plentifully without manure and with very little care—as is the case at its original sites in the Moluccas. Our soil, can therefore, not be compared to these rich regions. In advancing opinions on the point myself, these may meet with various favor—as I have seldom seen it mooted without considerable discussion. It partakes much of the same quality of the other parts of the Malayan Peninsula that I have visited—and when compared with that standard, the soil can be considered by no means inferior. I would hold it superior to the dry soils of the plains, ridges, and undulating hills of Pinang, and Province Wellesley—and considerably so to the same in Malacca, while in its alluvial soils it must give place to both these settlements either for extent or fertility. In comparing it with the eastern parts of Java, with Bally, and the Moluccas, and other islands of the Malayan Archipelago that form a part of the great Volcanic Zone which stretches from Arracan to Kamtchatka (the only really fertile islands of the Indian Archipelago in an agricultural point of view) it must be considered very inferior in productiveness. If Marsden's view be correct with regard to the sterility of the late British possessions in Sumatra, Singapore must be considered much superior to them, though these circumstances hold true, here also, as mentioned by that author, in regard to the native cultivation, that the trees are only found in perfection in the close proximity of their houses. The cause of this he attributes to the sweepings &c., of the houses; but in Malayan houses these are never lifted from underneath their stilted houses, so such trees only that are below the level of this can partake of the benefit; I should therefore rather assign the causes of their fecundity to the carbonic acid evolved from the respiratory organs of the inhabitants, which forms a food for the vegetable world, the green part of plants when under the influence of light retaining and assimilating the carbon, and restoring the pure oxygen of which it is compounded to the air; this is amply proved on observing the fruitfulness of trees, situated above the level of the houses—whose roots are yet too distant to reach the manure beneath.

SOILS. In commencing a detailed description of the soils of Singapore, it may be at first stated, that the undulating and dry soils are five times more extensive than the alluvial, which until drained are wet soils. In the hilly soils there is not a great diversity of quality, and they may be generally described, as red ferruginous earth, these are modified by the formations on which they rest; the

argillaceous shales of the south west part, giving heavy and unpulverisable soil, the arenaceous formation of the east of the island, whose soil is light and porous. The granitic formation ranges between these and possesses a soil superior to both ; it is further less encumbered with the layer of iron stone gravel and rubble, already mentioned, as being so common, and is consequently more suitable to the operations of agriculture. In no part of the island do these soils, where unaided by art, approach to dark brown earth or garden mould, as may be noticed on some of the hills and vallies of the sister settlement, Pinang ; but always retain the characteristics above described. Colonel Low* mentions that the soil of the Government nutmeg garden, contains 41 per cent of silica, 59 of alumina and vegetable matter ; and oxide of iron averaging 2 to 3 per cent of the whole—the maximum of silica was 66 per cent, and minimum 20 ; the soil of Mount Sophia had of silex 49 per cent, the maximum being 82, and minimum 37 per cent. The strata of sandstone were found to give of silex 48 per cent, the maximum being 87 per cent and minimum 5.

In the alluvial soil existing on the plain as formerly mentioned to lie on the south eastern exposure of the island, considerable variety is met with. In Siglap, Gelang, and south of Kallang districts—light arenaceous soils are most general ; these contain 80 to 95 per cent of silica.† In some parts, particularly at the head of the Gelang creek, black earth consisting of decomposed vegetable matter, and mixed with a sufficient quantity of quartz crystals to give the soil firmness is found, and is exceedingly well adapted to the growth of cocoanut trees. In the middle of Kallang and Pyah Lebar a fine black earth is found and is well adapted to most intertropical cultivations. In Rochor district to the south eastward of the Sirangun road, there lies principally a red argillaceous soil at a higher elevation than the rest of the plain—the soil is stiff and unyeilding and for its plastic qualities has been much used for the making of bricks. To the north westward of the same road and in the same district argillaceous soils abound, more or less mixed with vegetable matter and affording a soil of considerable fertility. To the north of Pyah Lebar, and Kallang in the neighbourhood of the rising grounds, also in the middle of the Bukit Timah road valley, and the valley of Bras Basa, the soils are in a great measure composed of vegetable matter, spongy and peaty. The want of inorganic matter such as silica and alumina, renders the cultivated plants rank, leafy and unproductive. The paddy grown runs to straw and does not fill the husk, while the cocoanut and betelnut when of full growth, bend and fall over and the leaves, for want of rigidity of bark and fibre, droop ; culinary vegetables, after the soil has undergone paring and burning, are

* Free Press Vol. 6.

† Colonel Low.

found to succeed very well, under Chinese gardeners. These soils however are not extensive. In the Bras Basa valley they were found to contain carbon 43, silic 2. 75, magnetic protoxide of iron 0. 25, loss 54.*

AGRICULTURAL LABOURERS. The labouring population is of varied class and character; of these Chinese are the most numerous, and are principally employed in the gambier and pepper plantations of the interior, and vegetable gardens that surround the suburbs. They are little employed as day labourers by European planters, being found when thus employed to have no superiority over other Asiatics. Their disadvantages as day labourers, are also rendered considerable by the possession of a dogmatic temper and an unyielding disposition, when under Europeans; qualities not a little fostered by the contempt, brought from their native country, which is held for all outside barbarians; inducing a suspension in a great measure of the conventionalities of behaviour on their part, that obtains in the intercourse between employer and servant. In employing them therefore it is necessary to have a Chinese overseer, who has been long accustomed to the manners of Europeans. As contractors they are eminently useful. To work by contract they seem in contradiction to the other races, to be as partial as the others are disinclined; for all operations though hard and unordinary, they enter into competition, with great spirit, frequently without any knowledge as to the probable profit or loss. This is principally owing to the system of combination that they adopt of extending the mutual interest and responsibility of the undertaking to every workman that is engaged; thus though the work turn out unprofitable—great loss cannot accrue to any individual, as in profits and losses, they all bear their share—and if loss be incurred, it only amounts to this, that instead of each workman obtaining for his labour the usual wages, viz., 3 to 3½ dollars per mensem, he may only obtain 2 to 2½. If all the workmen do not join the compact in any undertaking—there is seldom less than ¼ or ½ who are partners. Their addiction to opium smoking, gambling, and other enervating vices, brings on a rapid decay of the physical energy brought from their native clime, which they would otherwise retain, as the climate does not appear to affect them prejudicially. The Javanese and Boyans hold the next rank as labourers, the latter come from the small island of Bawian, in the Java sea, and as labourers both may be said to be characterized by their soberness, slowness and honesty united to dulness, patience and endurance. They are valuable as labourers on nutmeg and cocoanut plantations, where the labour is light and where the value of the produce requires equivocal characters to be excluded—their pay is 2½ to 3 dollars a month. Klings or natives of the Coromandel Coast will rank next, who, as Dr. Oxley observes†

* Colonel Low.

† Journal of Indian Archipelago.

"are good workers if they choose to exert themselves, but they are the most wretched eye servants, and seem to delight in chicanery of all sorts." They are nevertheless useful in many of the branches of the operations of agriculture, particularly where duties whose neglect would be easily discoverable, can be assigned to them—such as syces, cattle drivers, grass cutters, nutmeg gatherers, &c. In these capacities they earn the same wages as Chinese labourers, viz., 3 to 3½ dollars a month. The employment of this class in hard manual labour—such as on Sugar Estates, to be at all profitable to the employer, would require to be under the direct eye of an European overseer, such as is the case in the West Indies, otherwise their complete want of honesty and total disregard to his interest renders their employment utterly useless. The last class worthy of mention are the Malays, and they may be divided into those who come from Malacca, and the original inhabitants of the Island and the Johore Archipelago; neither partake much of the labours of the field;—to labour that requires restraint, they are peculiarly averse, indeed with regard to the latter race, it can hardly be expected that only 30 years subjection to the gentle rule of a British government, could yet have done much to wean them from the habits of piracy, to which under the direct connivance and approbation of their chiefs, they were well known to be addicted. This predilection to their favorite pursuit which they considered not only a manly, but an honorable one, can yet be only said to have been curbed, but not extinguished. The Malays are therefore but only partial assistants to the agriculturist, and are principally employed in job-work, such as cutting fire-wood—in searching for the various products of the forest, dammer, rattans, &c., or in the erection of temporary buildings constructed of attaps, and other leaves. In wielding the bliong (a peculiar hatchet) or the parang (chopper) they stand unrivalled,—for cutting down the forests, an operation for which they show great partiality, they are extremely useful, and in this they exercise great skill, and dexterity. On daily labour they earn 13 to 14 cents, and in clearing the primeval forest they are paid 4 to 5 dollars per acre.

An interesting subject next presents itself for consideration, in the investigation of the work of Asiatics in comparison with Europeans, in order to come to correct conclusions, as to their relative physical powers. I am sorry that I can offer but few data to assist in elucidating the point. Few opportunities offer themselves here, owing to the light desultory employments, in which all races except Chinese engage. The three following comparisons of the work done by English and Chinese are all that I can at present offer :

Building with brick.

A rod of brick work or 306 cubic feet costs in laying £2 or 9

dollars,* at 4s 6d to the dollar, when bricklayers wages are at 5s 6d and labourers at 3s 6d; thus, one labourer and one bricklayer in England would take 4.44 days to complete this quantity. In Singapore a rod of brick work costs Drs 4.95, bricklayers being paid 38 cents and labourers 20 cents—thus one bricklayer and one labourer would take 8.54 days, we have consequently in this species of labour, the work of an Englishman to that of a Chinaman as 2.25 to 1.17 or 100 to 52; again in

Earth work

In removing earth in England by the barrow, stages of running are 20 yards each, and the price per stage 1d per yard, it is however usual for the principal contractor to bargain with his gangman or foreman at a price per yard, not exceeding 20 yards from the face of the cutting, and at the rate of a 1d per yard extra for every stage of twenty yards beyond the first stage. Thus stuff requiring 1 getter and 3 fillers would cost 4d per yard. It must be here observed that one man can wheel to the distance of twenty yards for fillers, or from 40 to 50 yards per diem; thus the cost of 6d per yard is incurred, filling 3d, getting 1d, wheeling two extra stages 2d. At this rate of pay six men will remove about 42 yards and earn for their labour 3s 6d per day; each filler filling 14 yards and removing it from the face to the distance, as it increases from 1 to 20 yards.*

In Singapore while executing a road across the Island by Chinese contractors, I had accounts taken of the number of men employed on each contract, and have consequently good data for comparing it with the above. Thus in one contract suitable to our purpose, earth was laid on a road that crossed a swamp, where the earth was taken from both ends. The length was 1,200 feet or 400 yards—the depth 1 foot or $\frac{1}{4}$ of a yard, and the breadth 21 feet or 7 yards. The actual cost to contractor in labour was 42 Spanish dollars, and the number of days work was 326, the wages being nearly 13 cents per diem. Now by estimating the same work in England with the data above given, the work would be divided into 20 stages of 20 yards each, and each would contain $46\frac{2}{3}$ cubic yards. The first stage at each end would require 3 getters and 1 filler for 42 cubic yards in a day, or to complete its cubical contents 4.4 days work, would be required. The next stage would require 3 getters, 1 filler, and 1 barrow man, or require 5.5 days work, the next stage would require 6.6 days work, and so on, as will be seen more clearly below.

* Skyrings price book.

* Hughes on road making.

gapore saws a tamponis plank, which is equal to oak in hardness, in eight hours, the planks being 20 feet long and 1 broad—his work is therefore equal to 580,000 units; an Englishman working the same time exerts a force applied in the same manner of 2,380 units in a minute, or 1,142,400 for 8 hours, being the ratio of an Englishman to a Chinaman of 114 to 58 nearly, or 100 to 51—in this species of labour.

The above data must not be taken as proving the Chinese to be much inferior to Europeans in physical strength, for we must consider that the one labours in an oppressively hot climate, while the other does so in a temperate one. The Chinese in these experiments also works in to him a foreign land, under which the European would soon sink or, at all events, become much impaired in strength. The Chinese may therefore be said to have this advantage over the European that his constitution allows him to labour on, without injury to himself. The data are consequently only so far useful—in affording the ratio of human power when the estimate of an undertaking of an unusual nature, would require to be drawn from known facts connected with similar works in Europe.

IMPLEMENTS OF HUSBANDRY.—The native Implements of Husbandry are scanty. In this respect Singapore is much behind the other settlements in the Straits, nor could it be otherwise with the predatory habits of its original possessors. The Bliong and Parang already mentioned are the most important to the Malay; with the one he fells the large trees of the forest, and with the other he clears the brushwood—by fire he completes the process of preparation, amongst the ashes he plants his paddy, yams, and few stalks of sugar cane, and does little else than protect the crops, till they have ripened, from the birds and wild animals of the forest. After the crops are gathered and consumed he removes to another patch of jungle, which he fells and burns as before, and abandons the old location. The principal implement used by Europeans, and other Asiatics besides the Malays, is the chunkol or hoe—ploughs are hardly ever put in request—the Javanese one is used on one or two estates; attempts have been made several times to introduce English and American ploughs on the sugar estates, but they cannot be said to have been attended with success, as they have not been persevered in.

MANURES.—The principal manure employed by planters is obtained from the stable and cowyard:—this part of Rural Economy has not advanced into a science, as in the more advanced districts of Great Britain. It is applied fresh from the yard by some, and by others in a decomposed state. Guano to a small extent has been tried in nutmeg plantations by Dr. Oxley,* but he has rejected its use as injurious, from its over stimulating properties which causes

* Journal Indian Archipelago.

a reaction afterwards and a deterioration of the fruit. The Chinese use night soil extensively on their vegetable gardens. Burnt earth as a compost is also not neglected, green manuring is also extensively had recourse to by nutmeg planters. Manure is generally kept in pits covered with red earth, to prevent the evaporation caused by the supposed desiccating effects of the climate, but I have observed the system of stacking the manure adopted on sugar estates. Vegetable matter procured from straw—grass &c.—and mixed with the animal manure, is much less had recourse to than in Europe; its adoption in many parts where the coarse grass called lalang can be had in such abundance, would give a great accession to the means of the planter, in this department. By laying the mixture out in heaps, fermentation and consequent decomposition proceed rapidly—and the loss from evaporation will be less than would be expected from the heat of the climate, if the great humidity of it be considered, and the rapidity with which the operation of fermentation can be gone thro'. Thus the atmosphere holds in suspension one 43d. of its weight of invisible steam, when the Thermometer stands at 82° Fahr. while at 50° Fahr. (the mean temperature of England) the air can only contain $\frac{1}{100}$ th of its weight in moisture in an invisible state, without forming clouds, mists or rains—now, in Singapore if the air contained only $\frac{1}{100}$ th of its weight in moisture, it would be injuriously dry—though in a climate of 50° Fahr. this would be the maximum of humidity, but we know the climate to be extremely humid, which must consequently so far check evaporation. Bats dung, obtained from caves in the coasts north of Pinang, has been used in slight quantities, the distance of carriage preventing its general adoption. The ashes of bones have also been long used by the Chinese of Malacca, for increasing the yield of their paddy fields, but I am not aware if the practice has extended to here. So much for the organic manure of vegetables and animals. Inorganic manure has not received the attention which its great influence on vegetable life has caused it to be held with the scientific agriculturists of Great Britain. The most easily obtainable of these, and the most extensive in application, lime, remains here entirely neglected, as far as I am aware. The want of calcareous matter in the granitic soils of Singapore, where the most valuable plantations exist, must be evident from the known scarcity of that substance in this formation, ranging in different kinds from .05 to .44 in the 100; on the stiff clays its well known opening and loosening qualities, would lead to the best results. So well are its virtues known, that on the stiff soils of England, it is usual to put 7 double cart loads to an acre every 4 years. and to inform myself of its applicability here, I was led into the following enquiries regarding measures. I found that the standard rice gantong kindly sent me by Mr Dumnai, contained 229 $\frac{1}{100}$ cubic inches, and the standard chupa 57 $\frac{23}{100}$ cubic inches. The standard coyan will consequently contain 183,341 $\frac{69}{100}$ cubic

inches. Colonel Low gives about 64 cubic inches as the size of the chupa.* The Chinese measure their lime in a 10 ganton box containing $2,543\frac{3}{8}$ cubic inches, which is very close upon an English bushel which contains $2,510\frac{4}{8}$ cubic inches, a Winchester bushel being $2,150\frac{4}{8}$ cubic inches. The Chinese lime coyan is therefore $20,3468\frac{3}{8}$ cubic inches in size, making $63\frac{1}{2}$ cubic inches in their chupa. The hundred measure used in London contains 47,952 cubic inches and costs there 9 shillings or 2 Spanish dollars. The Chinese lime coyan of $20,3468\frac{3}{8}$ cubic inches costs here $2\frac{1}{2}$ Spanish dollars. Lime is therefore obtainable in Singapore for less than $\frac{1}{3}$ of the London prices. Mr Dunman informs me that at Buddoh Estate which is a sandy arid soil, he has applied blue "slimy mud which has a wonderful effect, so much so that it "will turn a sickly yellow looking tree to a deep green in less than "3 months." This may be attributed to the following causes:—1st, the retention of moisture by the impermeable mud—2nd, the addition of allumina to the silicates of which the soil is almost entirely composed, and to the calcarious matter consisting of the exuviae of marine animals imbedded in the mud to which the cocoanut has known partiality. On the drained marshes in Cambridgeshire† it is stated, that vegetable matter to the depth of 6 to 10 feet rested on blue gault. The wheat grown on this had long weak straw, easily bent and broken, carrying ears of corn of small size. Chemistry having thrown greater light on the operations of agriculture, it has since been the practice to sink pits to obtain the blue gault for spreading over the surface as a manure. The straw by this means takes up an additional quantity of silex, becomes strong and not so tall as formerly, carrying larger and heavier corn, whilst the produce is luxuriant and abundant. How applicable this is to some of the alluvions of Singapore may have been noticed by the remarks in a preceding part of this report. The chemical agriculturist might even find a field here, though a circumscribed one. It is now well known that the ash or inorganic part of a plant which remains after the four elementary substances of the organic part has been driven off by heat, contains a certain quantity of inorganic substance having sensible proportions of potash, soda, lime, magnesia, chlorine, silica, &c.‡ and that the plants or trees can in general only derive these substances from the soil. Substances containing these chemical components are therefore now much applied where the soil is known to be deficient in them, for the production of any crop whose known elements have been ascertained. This knowledge is necessary, as it has been ascertained to be the case with plants that they cannot grow in a healthy manner nor be perfect in all their parts, without sufficient

* Free Press of 1841.

† Civil Engineer and Architect's Journal Vol. XI.

‡ Johnston's Chemical Agriculture.

proportions of their kindred elements being contained in the soil on which they grow. Of inorganic substances the bark of a tree contains the greatest proportion and the heart the least, may it therefore not be asked with reference to the bark diseases in nutmegs (a cultivation now producing 178,000 Spanish dollars annually in the Straits settlements) may they not in a great measure be placed to the want of their constituent substances in the soil, may not the disease in the rind that envelops the nut, now so prevalent in Pinang, a cause of enormous loss to the planters there, be ascribed to this cause, and which disease has lately shown itself here. This presents a subject fitted for the investigations of the Chemical Analyst, and is of the gravest import to the proprietors of spice gardens. The practical results of the applications of chemical substances to the soil, in a few remarkable instances as stated by Johnston may not appear uninteresting—a crop of hay dressed with sulphate of soda produced 5,288 lbs., undressed 4,480 lbs. increase 808 lbs.; clover hay dressed with nitrate of soda produced 3 tons 4 cwt., undressed 2 tons 12 cwt. Barley dressed with the same substances produced 32 bushels and undressed 18 bushels—wheat dressed with common salt produced 26½ bushels, undressed 13½; many substances have been applied by the experimentalists with more or less success such as diluted sulphuric acid—saltpetre, gypsum, charcoal, ammoniacal liquor &c. the details of which would take up too much space.

STEAM AND WATER POWER. There is one Steam Engine at Balestier and one Water Mill at Kallangdale in Singapore Island, both of which are employed on Sugar Estates—the former is 8 horse power and the latter by gauging the stream that drives it, was found to be equal to 11 horses; 25 per cent may be deducted for loss of power by friction, the effective power or modulus of the machine will therefore be about 8½. The valleys of Singapore being generally level they do not present much field for the application of water power, the rise per mile can hardly exceed 2 to 3 feet, in any place, a fall of four or five feet is consequently all that can be obtained with moderate outlay, and as manual labour is cheap there is little chance of the mechanical power obtainable by this means being availed of, when the other can be employed instead. The Kallang supplies the greatest power on the island; next to it are the Rochor, Kranjee Pulo, Seletar Tawar, Kranjee, Batang Kiri, and Balestier. The power of the mill driven by the Kallang has been already mentioned and each of the rest might be applied to machinery of 4 to 6 horse power. In pursuing this subject I gauged the three following streams several times—and obtained the result given below :—

Height of water fallen from the atmosphere in 1 year.	Name of Rivulet.	Quantity of water delivered into the sea in cubic feet during one year.	Superficies of country drained in square feet.	Quantity of rain that falls on the superficies drained, in cub. feet during one year.	Parts of hum-dred lost by absorption & evaporation
92 inches.	Bras Bassa	201,744,000	49,501,760	380,513,493	1 ⁵³ / ₁₀₀
	Rochor..	978,200,000	213,147,540	1,634,131,140	1 ⁶⁰ / ₁₀₀
	Balestier.	397,912,000	110,250,000	845,250,000	1 ⁴⁷ / ₁₀₀

I am aware the above results can only be considered approximate—first, because I am not in possession of the beautiful instruments called Tachometers now used for these purposes by Engineers in Europe, and consequently had recourse to the old methods—secondly, the difference of the fall of rain may be greater at the heads of the rivers, (though difference of level is not much) than at their mouths, near which the Pluviometer of the Singapore Observatory was placed, further the measuring of the fall of rain is in itself subject to great variations. Thus the quantity collected in a gauge on the top of York Minster from February 1833 to February 1834 only equaled 14,963 inches, while perfectly similar instruments on the top of the museum of that city, and on the ground gave relatively 19,852 and 25,706 inches* and again the inequality of the quantity of water passing down the rivulets at various times when affected by heavy rains unless constantly watched must add greatly to the inaccuracy—though this cause is of less account here where the jungle and marshes tend to keep back the water, which would flow rapidly to the sea in clear and well-drained countries, where no obstructions like these exist. With due allowances therefore the following deductions may be taken, that a square mile of surface in Singapore delivers to the sea about 100,000,000 of cubic feet per annum of water which would be available for mechanical power or irrigation &c., and that of the quantity of water that falls from the atmosphere— $1\frac{2}{3}$ ds or nearly $\frac{1}{2}$ is either reabsorbed by that element or decomposed by the processes of vegetation. The loss by absorption and evaporation has been estimated by various authors in very different proportions in other parts of the world† thus the writer in the Edinburgh Encyclo. estimates it in Italy at $\frac{2}{3}$ th and in Scotland at $\frac{1}{4}$ th. In England it is estimated at $\frac{1}{4}$ th. At Liverpool it is estimated at $\frac{1}{2}$ § and in the marsh lands of England it is estimated by Mr Glynn at $\frac{2}{3}$ ds.||

* Physical Geog. Ency. Britannica.

† Physical Geog. p. 520.

‡ Cressy's Enclo. of Engineering.

§ C. E. and Archt. Journal vol. xi p. 188.

|| Do. p. 301.

THE ISLAND OF MINDORO.

[This description of the Island of Mindoro, one of the Philippines, is extracted from the *Diario de Manila* of August and September last. The name of the author is not given, but it is evident that his local knowledge must have been great, and several remarks that he lets fall in the course of his interesting description would lead to the supposition that he was one of the intelligent Spanish Missionaries who have been so zealous in spreading Christianity among the wilder islands of the Philippines. His details respecting the aborigines are of striking interest; and no less so are the accounts that he gives of the ravages committed by the Mahomedan pirates from Mindano and Sulu,—*Moros* or *Moors*, as they are called by the Spaniards, probably from their professing the same religion as their former invaders in Europe. These are the identical *Illanuns* whose name has become so notorious in the Indian Archipelago, and the account given by the author of the effects of their ruthless ravages in the Philippines will enable us better to appreciate the services of those of our countrymen who have been so actively employed in ridding the coasts of Borneo, and thus the southwestern seas of the Indian Archipelago, of their presence; and which, if continued for a few years longer will render the mode of life of a pirate so precarious, that we may expect to see these people, who are by no means fond of facing danger for danger's sake, settle down as quiet cultivators of the soil instead of the ruthless destroyers which the apathy of Europeans has allowed them to become.—Tr.]

ONLY a few years since the Island of Mindoro was a colony of pirates. About the middle of the last century an army of them swarmed upon its coasts, exterminating or making slaves of the inhabitants. Subsequently they established themselves at various points, and its ports, rivers and creeks served as places of rendezvous during their audacious expeditions. Previous to this terrible invasion the island was well peopled and cultivated. The vestiges of their former prosperity are still to be met with. They have lost several species of rice that they were in the habit of cultivating, but they still retain more than twenty, some of which are of the best quality known in the Archipelago, for example that which the natives call "*Calibo*," celebrated for its whiteness, softness and good flavour; and also the "*Quinauayan*." All descriptions of fresh rice, when undergoing the process of being deprived of its outer cuticle, exhales an agreeable odour, but that which arises from this kind of rice is as sweet as the smell of new-baked bread. These circumstances prove that agriculture, or, at least, the cultivation of rice, had once attained great perfection, and justify an assertion contained in one of the histories of this country, that Mindoro was the "*The Granary of the Islands*."

On a narrow plain called "*Punta de Sto. Thomas*" situated on the north coast between *Abra de Ilog* and *Calavite Point*, are found the ruins of what was once a well-constructed church. Its

pavement, all of stone, is covered with luxuriant vegetation, and even its walls give birth to trees whose trunks are about a foot in diameter. The extraordinary position in which this chapel has been erected, proves how rich and populous the Island of Mindoro must have been in former times. From the Bay of Ilog (*Abra de Ilog*) in the north to Paluan in the west, between which several ruins exist, the coast is so precipitous and the neighbouring *terrain* so mountainous and inaccessible, that some of the rivulets which descend from the heights fall vertically in picturesque cascades to the very edge of the sea. Now, nothing living is to be seen there but swarms of bees, and, once a year, a few savages, or inhabitants of the Bay of Ilog, who come to rob them of their nests. Where can the people who formed the congregation of this church have come from? Their existence in this position must have been the result of artificial circumstances, and their roads of communication with other inhabited places must have employed great intelligence and immense labour.

The invasion of the pirates must have been exceedingly bloody and destructive. Individuals are yet in existence whom we have heard refer to the smallness of the number of those who escaped the general destruction, and who yet tremble as they relate the circumstances, describing their invaders as having fearful countenances, thus transmitting to their children the panic terror which the numbers of the Moors excited in them. Those few who escaped congregated in the neighbourhood of a small savage tribe which, without doubt, inhabited the central mountains from time immemorial, and whose district, lying in the northern part of the island, is designated among the natives by the name of "Banguu." The descendants of these fugitives are the people who now constitute the interior population of Mindoro, independent of the Spanish authority, and who are distinguished by the generic name of "Manguianes." They differ from the primitive tribe alluded to above in not speaking their idiom, which is unknown to us unless it be pure Tagala;—and after the first moments of panic were over they separated from them. Indeed the Manguianes relate a thousand fantastic tales about the customs of this mountain tribe, and have left them alone and isolated in their lurking places.

But it must not be supposed that the fugitives returned to the beach. In the districts of the south, some descended to the sea shore, either forced by hunger, or invited by the abundance of the fishery; but these were perceived by the Moors who from time to time visited the coast, and were carried away as captives; thus confirming the others in the fears which induced them to take up their residence far from the coasts.

Since the abovementioned catastrophe several towns have been formed upon the coast by Christian emigrants from other provinces, but these do not contain altogether 2,000 inhabitants paying tribute. These emigrants were for the most part vagrants, or well-known

criminals, who were not permitted to remain in their native towns, and who hoped to live unknown in the vast solitudes of Mindoro, where the natural fertility of the soil, and the produce of traffic with the Manguianes, would enable them to provide themselves abundantly with the means of subsistence.

The number of individuals comprising the wild tribes is calculated to be more than 6,000. Their general character is similar to that of all the Indians of the Malayan race. Colour, a clear copper; hair, black, coarse and lank: eyes, rounded and the lacrymal somewhat debased: nose, flattened: stature, small: limbs well formed although feeble; expression very sad, their extreme misery and indolent habits, and their low state of civilization, affording an animated proof of what the Indians become when left to themselves. They generally go about naked. The chiefs wear a sort of band of *nito* cloth which encircles the waist, and a *bajaque*, a cloth very long and narrow which crosses the loins and stomach, whence one of the ends hangs down loose. They bind a fillet of *nito* cloth round the head, or else wear a band of old rags with the view of confining their dishevelled hair. The men have a purse, also of *nito*, hanging about them, in which they carry their buyo and tobacco, and a quiver of bamboo two inches in diameter in which their poisoned arrows are deposited: they carry in the hand a bow of *ñibong* (palma brava) with the bow-string formed of *abaca*, or deer-sinews, or of some other filament which they can obtain readily, together with a club in the waist-belt; all which arms they never abandon, although they very rarely have occasion to use them.

The arrows are of very fine cane with points of *Ñibong*, and to empoison them they smear the points with an inspissated liquid composed of the milk or sap of the *Dita*, which is obtained by making a hole in the trunk of the tree, and an infusion of *Abyab* or the rind of the fruit of the Sago-palm (*Cabo Negro*.) This infusion is of itself so venomous that if applied to the skin it produces an intolerable itching. Thus it is that the Manguianes, and also the Christians of the coast, use them as missile weapons, discharging them in numbers by means of instruments of cane which they fabricate for the purpose.

The women adorn themselves somewhat more than the men. They wear about the waist a cloth of cotton or some other material, sewed into the form of a bottomless sack, which falls as low as the knees. They collect the hair in a knot or *poso* which falls over the nape of the neck, and is confined by means of bands of *nito* or split rattan, but not with sufficient strictness to prevent a number of matted and dishevelled locks straying about the neighbourhood of the forehead.

They wear below the arms another garment three inches in width, which serves to cover part of the bosom, and some use a short shirt of cloth of precisely the same fashion as a Chinese *baju*

or jacket, but much shorter in the skirt. One, and one only of the ears is bored, and a strip of rattan, rolled up like a watch spring is introduced into the aperture which continues to open and enlarge it until it has lost its expansive power, when another, and a larger is introduced, and the process is continued until the aperture frequently attains a palm's-breadth in diameter; which singular adornment is the most ugly display of taste that can be conceived.

Garcilazo de la Vega relates in his "Royal Commentaries" that Manco Capac conferred on his vassals a particular favour among many others with which he honoured them: "and they were commanded to bore the ears, but with this limitation that the size of the hole should not approach one-half of that of the holes in his own ears." In another part of the same work it is stated that the vassals of the Inca were in the habit of piercing the ears and of enlarging the aperture by artificial means to an extraordinary size, incredible to those who have not personally witnessed it, for it seemed impossible that so small a piece of flesh as that which forms the lower part of the ear could be so extended as to receive an ornament of the shape and size of the lid of a water cooler (*rodaja de cantaco*.) Now considering that the savages of Mindoro have no emperor who can fix limits on their taste in boring the ear, it may be conceived to what an extent they have carried it.

On the arms and fore-arms, and also on the ancles they wear rolls of gilt copper-wire, and about the neck many strings of valuables which are their most highly prized ornaments.

The aspect which they present is in general filthy and repugnant. Almost all are disfigured by the cutaneous disorder from which they constantly suffer. Those who are affected in a lesser degree are covered with a kind of white scale formed by the constant excitation of the skin, and the absence of cleanliness. Many of them suffer from chronic ulcers, others from large excrescences, some have a foot or a hand enormously swollen, while the leg or arm appertaining to it is withered and shrunken.

They have no fixed domicile. They plant here and there tobacco, *buyo*, sweet potatoes, and several other descriptions of edible roots; and pass the night under the trees or in the hollows of rocks. For the infirm or sickly they have couches formed of trunks of small trees placed parallel to one another, with one laid across to serve as a pillow; if they scatter a few dried leaves over the trunks, they consider it as constituting a very desirable bed-place. They have villages which contain two or three houses; if a shed with one side resting on the ground, or, at least, on a floor of bamboo, and the other elevated by means of two stakes or poles, deserve such a name. In these hovels which are only 12 or 14 feet square, fifteen or twenty of these people shelter themselves, huddled together without distinction of sex, age, or relationship. It is to this custom of sleeping pressed closely together, and to squatting all day on their hams, that their peculiar mode of

walking may be attributed. They advance very timidly, especially the women, with the body stooping forwards, precisely like an ape, whose hands have been tied behind him, and who is consequently obliged to walk on his hind feet.

We have already stated that they plant tobacco, *buyo*, sweet potatoes, *gabe* and other roots; but there are some, although very few, who also plant rice. In one of the districts around Puerta Galera there is a Manguian who gathered in the year 1847 about 400 *cavanes* of paddy or unhusked rice. But this man owed his humble prosperity to the relation in which he was placed with regard to the Christians of the coast, which had instilled into him principles of regularity and organization. The species of husbandry in which they employ themselves is called *Caingy*.* They select a spot of forest land not very far from their usual place of abode, fell the small trees, and destroy the larger ones with fire. Afterwards they make large bon-fires until all the branches of the larger trees and the trunks of the smaller ones are consumed, allowing the large trunks to be destroyed by the action of the sun and moisture. This laborious operation occupies a year and sometimes two, but when it is completed, all is festivity and diversion. On the day fixed for planting the seed, the proprietors of the Caingy with their wives, children, and friends, assemble together, when a mountain pig or a *tamarao* is killed and dressed, and each of them having partaken of as much as he requires, applies himself to his labour with a joyful heart.

The men cut stakes of 5 or 6 feet long, and an inch and a half or two inches thick, one end of which is shaped into a diagonal point similar to that of a pen: they then form in rank, each wielding his stake, and commence making small holes in the ground a short distance apart, but without observing any symmetry or regularity in their operations. Behind them, and forming another parallel rank, come the women, each with her bundle or *balatan* of paddy, eight or ten grains of which are deposited in every hole. In this manner they plant one or two *cavanes* in the course of a single hour. After this they have nothing to do but to keep the ground clear of weeds, which the virgin soil produces in great luxuriance, until the paddy is ready to be gathered, which will be in June and July or in November and December, on which occasions a suitable day is fixed, and the crop is gathered in with the same feasting and joy that had attended the sowing of the seed.

It may be supposed that these plantations, possessing a virgin soil, and sheltered from the fury of the winds by the surrounding forest, would produce immense crops of rice. Nevertheless, either owing to the want of an assiduous and scrupulous clearing from weeds which the plant requires, or on account of the number of

* This word is probably identical with the Polynesian *Kainga*, or plantation which is used at Rarotonga and many of the South Sea Islands. *Translator.*

insects which attack the roots, or from some other unknown cause, the crop is considered a most fortunate one which produces fifty for one: generally it is only twenty-five for one, and at times only half that proportion.

The form of government and general habits of the Manguians are exceedingly simple. They are distributed in agricultural villages (*rancherías*) which take the names of the respective districts, these names apparently having reference to their position with regard to each other. In the districts of the south there are many which are known by the names of Panulon; Dalagdap; Rumaga; Fanil (*towards the east*) Buquid, Sabatun, Baribi, (*towards the west*) Batangan (*towards the north*) Bangan &c. The most populous contain two hundred or three hundred savages with their families. These villages hold communication with each other, but this is not so constant or intimate to prevent a thousand incredible absurdities being circulated among themselves respecting their neighbours. For instance the Manguians who live in the neighbourhood of Mansalay, in the south-eastern part of the island, state that the people of Bangan permit no stranger to enter their district unless he is accompanied and introduced by one of their own people:—that when they have large families of children and find difficulty, in supporting them, the parents abandon them in the wood or on pathways which lead to other villages:—that their marriages are attended with extravagant and ridiculous ceremonies, which decency withholds us from referring to, and which are described with such ridicule and aversion that one would suppose that they were speaking of another race of people whom they had never seen. The people of Sablayan, in the eastern part of the island, give a very different account of these same tribes; thus, to avoid inexactitude in the description of the mode of life of each tribe, it would become necessary to visit them all and to observe them very closely.

One point upon which no doubt can be entertained is that the tribes never go to war with each other, nor do they ever have serious quarrels among themselves. When they are discontented with the spot in which they reside, they remove to another, and do not return to the former site until the cause of their disgust has disappeared. No tribe is ruled by a single chief, but they acknowledge superiority in certain elders which they call "Tanungan" and whom they compare with the commanders of prahus (*cabezas de barangay*) among the Christians. One of these elders who appeared to have more talent and authority than the others, was head of the village of Panulon, in the neighbourhood of Mansalay, where we saw him in the year 1847. He was called "Sanagui," and was in no wise to be distinguished from the rest of the Manguians either by his garb, superior cleanliness, or by his physical constitution; but he was the oldest among those of his tribe who still continued active and capable of labour. Nevertheless he was only forty

years of age. So short is the life of man in these humid countries, where large spaces are covered with a dense forest, which the rays of the sun never penetrate. This same Sanagui informed us that his authority was limited to calling together his subjects, or rather companions, when the amount of services due to the Christians was to be discussed; that they consulted him on all differences with people of other villages; on all family questions, and on all offences committed within his district; that he counselled them when he thought it best, and passed judgment or not according to his will; and that at times he consulted with the heads of other villages or with the justices of the Christians, when the cases proved difficult. In return the people of his tribe assisted him in his little labours and enterprises. He informed us that the Manguians married several wives, who were generally scrupulously faithful, but that if any were guilty of infidelity, the paramour was punished by a fine, that is to say, he was obliged to deliver to the husband provisions or effects to the value of ten or twelve dollars. A penalty of the same description, but more heavy, is imposed upon those who kill or wound another; but if the homicide be a man of execrable and violent nature who has made previous attempts of the same nature, the other Manguians consider themselves at liberty, and even under an obligation, to put him to death, and he who performs the deed acquires a distinguished title to the estimation of his fellow villagers.

Their intercourse with the Christians is in general very slight, and the balance of trade, if we may be permitted to give that name to the results of their simple and puerile exchanges, is chiefly against them, on account of their extreme ignorance and simplicity. The savages of the centre of the island never go down to the coasts, but they receive with great satisfaction all those who may visit them, especially should they be Spaniards. A religious *Recoleta*, curate to one of the towns of the island, made a journey across it only a few years ago, from Sablayan on the West Coast, to Naujan, on the N. E. Coast. The Christian natives who accompanied him from the points of departure, turned him over to the Manguians about the middle of the first day's journey, and all returned to the town. The Manguians conducted him through their district, and then placed him in the hands of the tribe immediately beyond them, which process was continued to the end of the journey, which lasted a fortnight.

The respect with which the traveller was treated on all hands indemnified him in a great degree for the hardships he had to endure during this expedition, where the road lay through almost impenetrable forests, low mud-swamps, or over the stony beds of mountain torrents; the bridges for crossing the most dangerous abysses consisting of three lines of *bejuco* rope, one for the feet, the other two for the hands. The inns were slight frames of wood

covered with leaves, and the hosts were savage men covered with herps, tetter (*impines*) or leprosy.

We have already said that the people of the coasts of Mindoro consisted of outcasts (*vagamundos*) from the neighbouring provinces who had established themselves there on account of the security that they enjoyed and the easy subsistence they obtained through the fertility of the soil, or from traffic with the Manguians. There might also be a few speculators among them who aggrandized themselves by similar transactions. The greater portion of the towns consist of one or two parishes (*cabecerias*), except Calapan and Naujan which possess ten each, and Puerto Galera which has six or seven, the population of this last having been increased lately from its being a station of the marine flotilla, whence they depart on their cruizes in various directions. Some of the principal Christians taking advantages of circumstances to assume functions of justice like those of petty governors or deputies, have progressed little by little in establishing commercial and political relations with the Manguians. At Mansalay, for example, and at Bongabon on the east coast, the savages of the neighbourhood come down to assist the Christians in constructing stockades, forts, and telegraphs for the public defence. Some, also, have in their private service fifty or a hundred Manguians, to whom they advance rice, handkerchiefs, plates, cooking utensils, hatchets, and other small articles, which are repaid by manual labour in the corn fields, or with wax, rattans, potatoes, sago, (*yuro*), and other productions of the forests. Thus it is, that on certain days of the week, at the setting of the sun, great numbers of the Manguians assemble in the towns with which they are in communication, where they pass the night, and return to their homes the following morning.

Those who have not witnessed it cannot conceive the objection which these poor savages have to residing in any regulated town. The idea of becoming permanent residents on a spot after they have consumed all the fruit in their neighbourhood, or after they have suffered from some contagious sickness there, is so repugnant to them, that no sort of inducement will render it tolerable. They consider the Christian natives as disgracing themselves more by becoming fixed residents, than by paying tribute, performing menial services, and by being obliged to enroll themselves for defence against the Moors. It is only with great difficulty that they can be prevailed on to allow one of their children to be brought up among the Christians, and, to conclude, they resist to the utmost in their power all measures which they consider will either directly or indirectly tend to their advancement in civilization.

The Christians of Mindoro participate much in the customs of savages. They cultivate a little rice, which they consume in the course of a few months after the crop is gathered, and subsist for the remainder of the year on fish, roots, but above all on *yuro*.

Yuro is the heart or pith of the trunk of a palm known by the name of the *cabo negro*, a description of which was first given to Europe by the celebrated Marco Polo. "In the kingdom of Fanfur in Sumatra" says this distinguished traveller "they make a kind of flour from certain high trees by the following operation. They remove the bark of the tree, which is very thin, and cut the trunk into pieces. They then extract the pith which is put to soak in water; it is then formed into little cakes, which, when they require them, they pound and convert into flour. I have brought some of these cakes to Venice, and they have much the flavour of barley bread".

On cutting this palm, large and strong filaments are obtained from it, which, when nipa is scarce, they apply to a similar purpose in covering their houses. From the rind of the fruit they make a poisonous infusion to which we have previously alluded. From the fruit itself they make an agreeable sweet-meat; and lastly by making an incision in the upper part of the trunk they obtain a sweet and spirituous juice, a sort of *tuba*,* as highly estimated as that obtained from the coco-nut tree, which, if distilled, yields an ardent spirit of good flavour, and if placed in the sun for a few days is converted into delicate and tasteful vinegar.

They have also at Mindoro abundance of *nami*, a root of the form of a large potato;† it is cut into pieces and infused for several hours in water, when a mucous liquid with which it is impregnated, and which is found to be very injurious to the human constitution, exudes, and lastly it is pounded and made into cakes. A decoction of this root, mixed with those of several other vegetables, produces a wine of a very soporiferous nature, of which the Indians know how to make use when they wish to take a criminal whom they dare not attack in an open manner. An enumeration of all the things which nature produces spontaneously in this island, and which, for want of better, furnish subsistence to its sparing and indolent inhabitants, would be interminable.

With regard to the topography of Mindoro we are only able to give a general idea. From Point Calavite in the north-east, to the south point which some call Buruncan and others Devil's Point (Punta del Diablo) the island is thirty-one leagues in extent; and from Punta Dumali in the east to Irirum in the west, fifteen in breadth; with a circumference of a little more than seventy leagues; and, by approximation, with a population of sixty-five souls to the square league, counting the Manguians. Between Abra de Ilog and Calapan, at four leagues distance from the coast, a mountain of great elevation raises itself, being the highest point of a cordillera, which, with many picturesque gaps, gradually declines towards the south until it terminates at Point Buruncan, the southern

* Called *tuac* by the natives of Timor and the Moluccas. (Translator).

† The *manioc* of South America. It is also cultivated at Timor and in the Moluccas. (Trans.)

extremity of the island. Several smaller ramifications extend from this cordillera. One of these terminates at Mansaly, in the southeast, and another extends to within a few miles of the west coast in the neighbourhood of Sablayan. Independently of this chain, two other mountains tolerably high and craggy raise their heads. One of these forms the Point Calavite and the other submerges itself in the sea at Point Damali. The lowest and most marshy plains in the island are those which lie between these mountains and the central cordillera. The valley which crosses from north to west, from Abra de Ilog to Paluan and Mamburao, is traversable during the dry months; but that which crosses from north to east, from Calapan to Bongabon is not to be traversed at any time except by savages. In the centre of this last valley, between Naujan and Pola, at a distance of two leagues from the sea, there is a lake of six or seven leagues in circumference, fed by the waters which fall from the principal mountain chain, whose course obstructs those which form the Punta Damali. Those waters which do not pursue their course until they collect in this lake, or which overflow from it in the rainy season, flood the entire valley, depositing in the lower parts so abundant a sediment, that when the waters retire or dry up, the land becomes six or seven inches more elevated. The church of the old-town of Naujan, situated in the immediate neighbourhood of the lake, has, in the course of less than 15 years, become buried in the mud as high as the key-stone of the arched door, and the inhabitants have found themselves obliged to remove to the beach.

Nor is this the only change that the surface of the island of Mindoro has undergone. Every year the embouchures of the small rivers which run into the sea change their position, overcome by the continued action of the wind and sea. The Bay (enserada) of Pola is formed by the submersion of a portion of the coast in 1695, if we may credit the traditions handed down to us by the chronicles of the religious establishments. The town of Balalacao, in the south part of the island, was founded less than ten years ago upon a hill of a perfectly conical form in the middle of a green plain, well cultivated;—the hill is now an isolated mount, and the plain has become an inlet of the sea in which small vessels can anchor.

In many of the ancient descriptions of this Archipelago we read that Mindoro was full of good ports and harbours but in reality there is only one at present in the entire island, that of Mangarin. Its excellent position may be perceived by the charts. It is on the south-east coast, is extensive and very deep, and contains a river which can be entered by gun-boats, with a canal which leads to an extensive lake of sufficient depth to admit small vessels, and which could be deepened with facility so as to form a dock that would not be inferior to the best in Europe. Puerto Galera, "port of the galleys," as it was called in the last century, is a fine port enough; but large vessels can only enter at high water. Its position is suf-

ficiently fine and picturesque. It is a semicircular bay, whose mouth is shut in by a long and narrow island. An observer placed in the centre of the bay sees nothing around him but leafy coasts, beaches of fine white sand and ridges of coral, and beneath him the clear and tranquil waters which reflect all the brilliant tints of the tropical sky.

How is it that a country so extensive, so rich in natural productions, and so near to Manila and to the populous and industrious island of Panay, can be thus desert? It can only be owing to the frequent incursions of the pirate Moors, to the insalubrity of many of the districts from their uncultivated state, but most of all to the excess of territory in proportion to the population which exists throughout this Archipelago.

Although the forces of the marine flotilla continue to advance from year to year in their progress against the pirates on the coasts of Mindoro, which formerly might be considered as their exclusive property, not a year passes without its being subjected to their visits. They are invited there by the number of places of shelter for their light prahus that are to be found in the canals or *Silingas* of Iling and Ambulon, distant little more than 12 leagues from the labyrinth of the Calamines, those of Pandan and Buyayao, the isles of Libagao, Naguba, Sibay, Maestre de Campo, and Tablas, on the south; with those of Golo, Ambil and Cobras, and the west coast of Lubun on the north, all uninhabited; and also the shoals of Apo and Panagatan. The dread of encountering bad weather during their voyages does not restrain them. They furl their mat sails, and pay out five or six fathoms of cable from the prows of their vessels to prevent them being dashed against any coast, and then sleep amid the noise of the most furious waves, as tradition states the Esquimaux to do in their insubmergible vessels of whale-skin. It is true that some are occasionally lost; but this has only occurred often of late years, when they have been in the habit of carrying artillery of larger calibre than formerly, and have consequently been obliged to make their vessels of more heavy and solid construction. Thus it is that the inhabitants of the coasts of Mindoro have not a secure moment to dedicate to the labours of the field, as they are few enough in number to defend themselves in case of attack.

The deep and marshy valleys we have previously described, covered with dense forests which preserve a perpetual humidity, are constantly exhaling miasma which prove prejudicial to health. The wind follows the direction of the valleys, and empoisons the atmosphere of the narrow gullies through which it makes its exit. At Abra de Ilog, which is situated in the mouth of one of these vallies, a stranger cannot set his foot, especially during the south-west monsoon, without catching a putrid or tertian fever. The inhabitants, taught by experience, have removed their parish church to Puerta Galera, and when they visit Abra de Ilog

they scarcely dare to pass a single night there. We frequently hear that the crew of a vessel which has anchored for only two or three hours in this dangerous spot, has become thoroughly infected with fever, and a great part have died in the course of three or four days. It is on this account that the labourers of the neighbouring provinces (Manila?) will not go to the coasts of Mindoro for any amount of salary.

All these inconveniences would be avoided if the other islands had an excess of population which could emigrate there, but the contrary is the case. The population of Batangas, Tayabas, and Panay is very scattered, and the Calamianes have scarcely a single family for each island.

The time is already near at hand when the Moors will no longer dare to approach our coasts. Whenever the inhabitants feel themselves well secure from these pirates, they will employ in tilling the ground that amount of labour which is now devoted to the construction and maintenance of gun-vessels, forts, stockades and telegraphs. Then its rapid prosperity will attract and foster population; the Manguians will become involved in the progressive movement; the clearing of the land will advance by little and little, and Mindoro will come to be one of the most rich as well as the most beautiful isles of this Archipelago.

MISCELLANEOUS NOTICES, CONTRIBUTIONS AND CORRESPONDENCE.

LETTERS FROM THE INTERIOR OF BORNEO (WEST COAST)

No. IV.

Pontianak.

From a place such as Pontianak *now* is only small items of news could be given in ordinary times; now and then an auction, or a thief stabbed, &c., but its business usually goes on with little other noise than that of the "Pa-sar." The Dutch portion, hacked by what is called "Darat China," is pretty and pleasant in a tolerably dry season—the remainder presents a medley of a few very good houses, a few others that are good, and a multitude that call literally for reformation. The number of passage-boats, to ferry us from one bank of the river to another (boats generally good, and always propelled by one person) is, I am told, nearly 200: and he who earns 25 cents per diem is accounted as doing well. Indeed, 15 cents will secure a man's best work at the paddle, and, if you would start after breakfast for an excursion with seven stout active fellows to go 25 miles and back, a dollar will pay them, to their hearts' content; and if a gentleman be in the habit of paying a man the enormous sum of an English six pence for perhaps a half hour's work and two or three hours' waiting for him, there will be an ambition to carry him whenever he is seen. Never, however, do men, in any degree, shout and gesticulate as at the water-side steps of Singapore: the ferrymen here are Bugis or Malays, and uniformly quiet and polite. We must acknowledge that Dutch Police *answer better* than such as you *used to have*: how you fare now, I do not feel qualified to judge.—A young, intelligent man has repeatedly besought me, of late, to redeem him from a debt of 70 rupees, entailed upon him at his father's death, and I have no doubt that, giving him his food and clothing, I might have his services for two years, and he would account so *easy* a release great gain. The sum is the precise equivalent of only twenty dollars, and yet perhaps it will make him a bondsman, a very slave, for the next ten years, or possibly for life: it certainly will, unless some white man receive him. So many Dyaks already look to us as their chief earthly stay that I cannot think of preferring him, to their exclusion, our work being but slight: and, besides, I would not, for appearance sake, pay the debt and consider the man *mine*, though becoming less and less mine as monthly deductions should gradually free him. The system has intrinsic difficulties, and some excessively tender consciences would whisper, or loudly utter, "Slavery!": if I *could* take him *at all*, I should free him *within* a year: poor fellow! it was affecting to hear him depict the evils of falling upon the "tender mercies" of a Malay master, should such an one pay his debt. He says, in reference to their talk, "if they would abuse me angrily and coarsely I should not mind it so much, but the sting of such a position is that they take delight in deciding us upon our misfortune and its issue."

This place, as every white man would pronounce, on a moment's observation, is to be one of immense business when our island shall have taken her place in the industrial world. Two noble rivers, forming by their confluence the Pontianak River, place this point beyond all doubt; either the Landak or the Kapuas alone would bring a tide of wealth when the nlu folk* should have become enterprising and possessed of funds—but *two* such streams are a fortune for the bappy future. Thirty years hence, it is probable, ships will come directly hither from Europe and Ame-

* *Ulu*, the interior, from *Ulu Sungi* the head or upper portion of a river.
—ED.

rica.—not numerously, but still it will be the interest of *some* so to do : and the beginning may be within the next decade of years. Gold, silver, tin, iron, diamonds, iron wood, coal, bees' wax, tingkawang oil, various costly timber &c. will go largely hence when sought for from abroad. I saw recently a pretty piece of gold, about two ounces, said to have been found precisely as it then appeared, and it certainly seemed to warrant the statement. Into the matter of prices I shall not enter, though I make it my aim to learn something on all points that concern magnificent Kalamantan. The habits of Malay princes, Sultans; &c., are of course similar to what we find elsewhere, though there is a freedom here from the open vulgarity and vice of cockfighting, gambling, &c. Our chief Captain Cuinan is a man of cleverness, and is probably amassing money; he is quite familiar with many European peculiarities, and entertains a white man handsomely, whether at his office or table : his dinners offer choice variety, in his own style and in ours. From a man like him you may never see the laughably low meanness of a Malay Tuan who, when offered a bundle of cheroots from which to select one for smoking, will often take the whole, and crown the act by remarking that, *not feeling like smoking just now*, he will carry them home. This thing I first noticed here, and have seen it repeatedly in a month. A gentleman who is away from his house, and has brought but few with him, may thus see his hopes vanish in an instant—though not, as he had fondly thought, in smoke : it results not from stupidity but purpose. Pontianak is decidedly a healthy place, and both it and the whole Island seem quite free from those speedily fatal attacks of fever that are known on Java, and in other parts of the Archipelago : great excesses escape with wondrous impunity. The iron steamer "Burneo," of 4 to 5 feet draught, has been expected to arrive here within September, bringing the Governor who was appointed in 1846 : "has been" is the proper expression, as I believe that all estimates are now postponed, pro tem. : it is sincerely to be hoped that our upper waters may soon be visited by an Official party, in such a vehicle * The season for Pont'k to be drenched and flooded by rain and Sea-water is approaching—of December I can speak by experience : a visitor should come in either of the summer months of Europe, if he would walk for exercise or pleasure : a horse or carriage he may not hope to see. He will find merely the locale of a town which is *to be* larger in every respect than Singapore now is : *when that day shall be*, rests, under God, with Orang Putih. It has been my high satisfaction to hold recently a sabbath service for the gentlemen of the place, as well as any others who may choose to attend ; may it never be given up while there is a white man at the seat of the Residency, and a preacher to conduct it ! The last No. of the "Journal" here is that of July, brought by a vessel which left S. August 9. A prahu is now daily expected, having been away on the same route, to and fro, 26 days : still vessels often trifle away six weeks in this Passage.

KALAMANTAN.

* This visit has since taken place.—ED.

THE STATISTICS OF NUTMEGS.*

The statistics of Nutmegs are very imperfect, but still we have sufficient data to enable us to form some estimate of the cultivation and production in the different parts of the Indian Archipelago where the plant is cultivated. In the Straits Settlements the cultivation is extending very largely, and the production of course keeps pace with it. It was only in the beginning of the present century that nutmeg planting was introduced into Pinang, a number of spice plants having been imported from Amboyna by the East India Company.† The Government after some time, sold their gardens in which they had planted the Clove and Nutmeg trees, but the cultivation would appear to have made little progress at first, as in 1810 we find that there were only about 13,000 trees on the island, a few *Aundreds* being all that were in bearing. In 1818 the number of bearing trees had increased to 6,900. In 1843 there were 75,402 trees in bearing, and 111,289 not in bearing, besides males and 52,510 in nurseries. The cultivation has been steadily increasing since that date, and the greater part of the trees then planted out but not bearing, must now be yielding fruit. The number of bearing trees in Province Wellesley in 1843 was 10,500, not bearing 7,307, besides males, and a number in the nursery. The total number of nuts produced by the Pinang and Province Wellesley trees in 1842 were 18,560,281, and 42,866 lbs of Mace.

Nutmeg trees were first introduced into Singapore in 1818. In 1843 the total number of trees were estimated at 43,544 of which 5,317 were in bearing, the produce being stated at 842,328 nuts. In 1848, according to the table given by Dr Oxley,‡ the total number of trees planted out was estimated at 55,925, of which the numbers in bearing were 14,914 and the produce 4,085,361 nuts besides mace which is estimated at about 1 lb for every 433 nutmegs. In Singapore the cultivation is extending very rapidly. The increase does not take place gradually, but every now and then, when some person with capital enters upon it, it seems to receive a large impetus, the example set by one appearing to incite others to embark in it. In one district in Singapore this has been very apparent. The district of Tanglin, in the beginning of 1843, consisted of barren looking hills covered with short brushwood and lalang, which had sprung up in deserted Gambier plantations. Immediately upon the regulations for granting lands in perpetuity being promulgated in the middle of that year, a great part of the district was cleared, and nutmeg plantations formed, and there cannot now be less than 10,000 trees planted out in it. A number of Chinese are at present forming plantations in different parts of the island; one Chinaman has commenced planting which he intends doing to the extent of 5,000 trees, and we are aware of various other individuals who propose to form plantations of greater or less extent.

During the occupation of Bencoolen by the English, the nutmeg and clove were introduced from the Moluccas, and in 1819 the number of nutmeg trees were stated at 109,429. Regarding their present number we have no information.

The Spice trade of the Molucca islands being a strict monopoly, very few particulars are known regarding the extent of the cultivation or the amount of

* We insert this paper, which originally appeared in the *Singapore Free Press*, as it supplies some facts which it did not come within the scope of Dr. Oxley's account of the Nutmeg (ante Vol. II p. 641) to notice.

† Low's Dissertation on Pinang and Province Wellesley.

‡ Journal of the Indian Archipelago for October, 1848.

the produce. The average quantity of nutmegs annually sold by the Dutch East India Company in Europe during the last century has been estimated at 250,000 lbs, besides about 100,000 lbs sold in India. Of mace the average quantity sold in Europe was reckoned at 90,000 lbs per annum, and 10,000 lbs in India. The trade although so jealously guarded by the Dutch, has never been a very profitable one to them, the expenses being heavy. In 1779 the charges at Banda amounted to £146,170 and the revenues derived from the duties on imports &c. to £9,350 leaving an excess on the charges of £136,820 to be deducted from the profit on the spices; and the large quantities of spices frequently burned in Holland, on which heavy charges for freight &c. must have been incurred, must have also formed a serious deduction from the gross profit derived from those sold *

In 1814, when in possession of the English, the number of nutmeg trees planted out were estimated at 570,500, of which 480,000 were in bearing, including 65,000 moraceous trees. The produce of the Moluccas has been reckoned at from 6 to 7 hundred thousand lbs per annum, of which one half goes to Europe, and about one fourth that quantity of mace. The imports into Java from the Eastern Archipelago in 1843, consisted of nutmegs 740.33 piculs, and of mace 218.06 piculs, and the exports consisted of nutmegs 2,133.29 piculs and of mace 486.63 piculs. The amount of nutmegs exported from Java during the 10 years ending in 1834 averaged yearly about 352,226 lbs, and during the eleven years ending 1845 about 664,060 lbs yearly. The quantity of mace exported during the first period averaged 94,304 lbs yearly, and during the last 169,460 lbs yearly (See the Tables subjoined.)

The average yearly consumption of nutmegs and mace in Great Britain is estimated at about 140,000 lbs. The produce of the Straits Settlements in 1842 was reckoned at nutmegs 147,034 lbs, and mace 44,822 lbs, thus being more than equal to the whole consumption of Great Britain. The rest of Europe it has been estimated takes about 280,000 lbs of nutmegs, and 33,000 lbs of mace, India about 216,000 lbs of nutmegs and 30,000 lbs of mace and China about 15,000 lbs nutmegs and about 2,000 lbs of mace. As these quantities, however, would leave a surplus production of nutmegs alone, above 250,000 lbs, it is probable they are now considerably under the real amounts. In ten years from 1832 to 1842, the exports of nutmegs and mace from Pinang were trebled, and from the very great extension in the cultivation which is constantly going on, it is probable that the same result at least will take place in the ten years succeeding to the above period, viz: from 1842 to 1852. During these ten years from 1832 to 1842, the price of Nutmegs in Pinang fell for 10 and 12 dollars per thousand, to from 4 to 5 dollars per thousand. They have since kept at the latter rate, owing no doubt to the means taken by the Dutch, who at present regulate the market, to maintain the price, but it must be no less evident that with the large accumulations which this occasions, and the enormous increase in the production, the price must sooner or later give way, as it has done before, and go down permanently to a considerably lower rate. If a decrease takes place at longer or shorter intervals, notwithstanding all the pains used by the Dutch to keep up the market, what would be the result were the spice monopoly abolished, and the trade and cultivation rendered free and unrestricted? There would, without any extension of the cultivation in the Moluccas, but merely from greater care and skill being applied by the persons who would probably embark in it, be a very considerable increase in the production from the present plantations. The produce being sent at once into the market, in increased quantities, to be sold for what it would bring, for private

* Stavorinus' Voyages &c.

cultivators or merchants could not afford to hold back and regulate the quantity like the Government, a very serious fall would inevitably result, which would on doubt be permanent and steady, because, as regards nutmegs, it may be safely stated that the supply already exceeds the demand and that any increase in the supply can only be got off by submitting to a reduction in price. That we may not be suspected of exaggerating in regard to the Moluccan plantations, we refer the reader to Onunt Hogendorp's account of them, and of the wretched management to which they were subjected at the time when he wrote, and which prevails at the present moment.* Throwing them open to private enterprise could not but have the effect of improving and probably extending the cultivation to a large extent, and of course causing a very large increase in the production. The Dutch Government at present derive little or no profit from the monopoly, so that it is very likely it will be soon abolished in compliance with the demand which is now made in Holland, as well as in the Colonies, for a more liberal system of trade, and there is no doubt that the giving it up would be a popular measure. Already the influence of free trade has penetrated into that so long jealously guarded region, and the making Menado and Kima, which are under the Molucca Government, free ports, may only be the prelude to opening the spice islands themselves to the general trade, a measure which of course would entail along with it the necessity of abolishing the monopoly of spices.

It may appear that we have written rather discouragingly regarding nutmeg planting, and that the picture we have drawn of it is as much too sombre, as that of Dr Oxley was too bright and glowing. We have, however only given such facts and information as we could collect and from these we leave others to draw their own conclusions. It is probable that persons who have plantations already at maturity, or who, having capital, can afford to farm their plantations with rapidity and by high culture force the production, may still for a considerable time to come find nutmeg cultivation a source of profit, but to those who embark in it with but limited means, and can only extend their cultivation by gradual and slow degrees, it will certainly, in our opinion, prove a hazardous speculation, and one which prudence would seem to counsel them to avoid. Above all, to those who, like the Chinese in their nutmeg planting in general, cultivate imperfectly and therefore to a certain extent with less profit, it must in the long run leave anything but a satisfactory result.

* See *post*, p. VIII.

Table Shewing the Exports of Nutmegs from Java, from 1825 to 1845.

	The Netherlands	England	France	Denmark	Sweden	Hamburg	America	The Cape of Good Hope	Mauritius	Arabia (Mocha)	The Gulf of Persia	Bengal & the N. E. India	Malabar Coast	China and Macao	Siam	Japan	New Holland	The Eastern Archipelago	Sicily	Total
	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.	Pels.
1825	1,544	171	..	20	..	..	495	..	..	..	..	..	315	313	..	..	..	613	..	3,471
1826	676	106	..	..	..	94	120	3	..	..	61	..	100	693	..	..	13	371	..	2,237
1827	5,040	..	..	32	..	..	51	..	..	..	..	..	29	595	..	..	..	234	..	5,981
1828	1,015	..	18	..	..	20	..	..	..	15	..	..	..	302	..	..	..	278	..	1,618
1829	888	..	..	..	..	..	9	..	51	..	..	..	..	..	71	..	..	282	..	1,301
1830	884	..	..	..	..	100	..	..	..	..	..	..	..	..	..	1	..	306	..	1,304
1831	477	..	..	..	..	..	3	..	..	..	..	..	..	..	8	..	..	2,004	..	2,550
1832	3,616	..	..	..	..	..	..	..	..	..	..	..	..	58	..	..	..	220	..	3,849
1833	1,080	..	..	..	..	..	..	..	..	..	..	..	..	51	2	..	..	38	..	1,171
1834	4,066	35	..	..	..	5	..	..	..	..	..	..	..	54	..	1	..	48	..	4,209
1835	3,524	..	4	..	11	..	31	..	..	..	..	..	..	49	..	..	..	267	..	3,886
1836	4,666	..	3	..	4	..	106	..	..	..	..	..	..	73	..	..	..	170	..	5,022
1837	3,327	..	..	..	5	..	10	..	..	..	..	..	..	82	6	..	7	334	..	3,771
1838	4,717	..	..	..	..	..	..	56	..	..	..	..	28	160	..	..	4	67	..	5,032
1839	4,346	75	16	..	2	4	12	19	..	..	..	..	..	164	..	..	13	376	..	5,027
1840	3,269	..	..	..	..	..	..	4	..	..	..	..	2	94	..	5	15	210	..	3,599
1841	4,677	..	..	..	..	..	..	5	..	..	3	..	..	131	..	3	11	293	..	5,126
1842	4,766	..	14	..	1	..	31	..	..	..	2	..	..	97	..	6	6	206	..	5,129
1843	1,604	164	..	..	4	23	10	27	..	..	3	..	..	206	10	6	..	76	..	2,133
1844	7,800	108	..	..	..	7	52	34	..	..	1	..	..	47	..	4	..	134	14	8,158
1845	3,109	62	..	..	..	..	31	1	..	..	..	..	61	30	..	3	..	105	..	3,402

Table Shewing the quantity of Mace exported from Java, from 1825 to 1845.

	The Netherlands	England	France	Sweden	Hamburg	Denmark	America	The Cape of Good Hope	Cochina	Arabia (Mocha)	The Gulf of Persia	Bengal Coast	Malabar Coast	China and Macao	Siam	Japan	New Holland	The Eastero Archipelago	Sicily	Total
	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.	Pcls.
1825	555	80	..	..	..	20	80	..	..	..	..	101	82	2	..	..	..	97	..	935
1826	268	83	..	..	43	..	10	..	..	..	..	82	64	32	..	..	5	29	..	557
1827	586	..	..	14	10	..	..	..	..	..	..	64	20	115	..	..	..	296	..	1,085
1828	259	..	18	..	140	..	..	..	..	..	24	..	..	79	..	..	10	50	..	600
1829	144	..	..	..	20	..	..	3½	..	..	..	..	..	..	..	..	..	13	..	180
1830	176	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	177
1831	65	..	..	..	2	..	½	..	..	..	..	6½	..	51½	..	..	..	619½	..	745
1832	902	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	44	..	947
1833	548	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	81	..	631
1834	1,067	20	..	7	7	..	..	..	..	..	..	..	..	37	..	..	..	76	..	1,207
1835	1,471	..	..	7	..	..	20	..	..	..	..	..	..	16	..	..	..	112	..	1,606
1836	861	..	..	2	..	..	..	..	..	..	..	..	..	13	..	..	..	95	..	991
1837	1,081	..	..	..	..	..	..	..	..	..	..	..	..	4	..	3	..	126	..	1,214
1838	1,322	..	..	..	..	..	..	14	..	..	..	..	4	83	..	..	..	73	..	1,496
1839	1,427	20	2	2	..	..	7	3	..	..	..	..	..	5	..	..	6	109	..	1,581
1840	793	..	..	..	..	..	..	1	..	..	..	..	2	2	..	..	5	68	..	871
1841	1,100	..	3	..	..	..	..	1	..	..	..	..	..	3	5	..	6	54	..	1,172
1842	1,325	..	..	..	..	..	3	..	..	..	..	..	..	4	..	..	..	100	..	1,432
1843	401	14	1	2	..	..	..	11	..	..	..	..	..	4	..	..	..	54	..	487
1844	2,177	12	..	..	..	..	..	..	7	..	..	..	..	9	..	..	..	84	1	2,263
1845	730	25	..	..	..	..	..	19	..	..	..	..	..	1	..	..	..	48	..	830

THE MOLUCCA ISLANDS*.

After the fertile and valuable island of Java, the Moluccas form the most important part of our possessions to the East of the Cape of Good Hope. Under the name of the Molucca islands, are comprehended Amboyna, Banda, Tenate, Tidore, and the smaller neighbouring islands. The greater part of these islands were discovered by the Portuguese, who were in possession of them at the commencement of the 16th century.

It was not until the end of the same century, in 1598, that the Dutch flag shewed itself there for the first time, under the command of Etienne Verhaege and Vice-Admiral Jacques de Heemskerk who were received by the inhabitants with open arms, concluded treaties of commerce with the *princeas* and *orang kayas* (native chiefs) and departed with rich cargoes of spices.

The first times of our commerce and of our sojourn in these countries were not however, at all peaceable, on the contrary they required a policy sustained by numerous combats, chiefly against the inhabitants of the Banda islands, who often broke the treaties, committing the greatest cruelties upon the Dutch, and were at this period constantly excited and abetted by the Portuguese and the English, our contemporaries and rivals in the Asiatic Archipelago, until about the year 1663 when the war which broke out in Europe between England and the Low Countries, allowed our East India Company to terminate with vigour the struggle which had existed for so many years between it and the English Company, and to secure at last by formal contracts with the different indian nations, the exclusive supremacy of the Moluccas. The Governors General Both, Reinst, Koen and Van Dieman, themselves directing the forces of the company, and visiting these places, successively contributed to augment and to fix the power of this company at that time so prosperous, and which might have turned it to good advantage if, by their cruel and desolating system, to assure the monopoly of spices on the Moluccas, they had not prohibited all other culture or commerce whatever.

It is a fact unfortunately too well known and which it would serve no purpose to pass over in silence, that to ensure the exclusive commerce in these articles, the company caused to be rooted out and destroyed at a great cost, often by force of arms, all the nutmeg and clove trees, except the number necessary to produce the quantity of spices which it could sell.

To execute such a devastation, it was necessary to commit much violence, to maintain expensive garrisons, to build forts, to pay pensions to the native princes, and to forego all the other sources of revenue in the country.

It would have been well, if these results had secured considerable advantages; but the Company was never able to sell, in an average year in Europe, cloves, nutmegs and mace, for more than two millions of florins, while it was obliged in order to obtain them to spend often more than three millions, at the same time ruining these beautiful countries, from which it might have derived immense advantages under a good management.

The cruel effects of this fatal system upon the countries and the people who had the misfortune to find themselves subject to it were not long in being felt; however, let us hasten to say that a healing balm has been poured into these bleeding wounds, and the first foundations have been laid upon which in process of time an edifice may be raised more in accordance with the present times and opinions.

No point of the colonial system has perhaps excited greater attention in the supreme Government of the Indies, than the problem of the advantage or disadvantage of the monopoly of spices in the Moluccas, and perhaps no point has elicited more opposite opinions.

* *Translated from Count Hogendorp's Coup d'Oeil sur L'Ile de Java &c.* 1830.

The partisans of the olden time, for they are not wanting, assert that without the monopoly of spices, the Moluccas would no longer be of any value to the state. The partisans of liberal ideas in their turn maintain, that this exclusive monopoly carries in itself a destructive germ which in the long run will cause the total loss of these valuable possessions. Nevertheless, all are agreed, that to make with success and without a great danger changes in the existing system, it will be necessary to act with prudence and slowly, according to a plan which shall only at first present preparatory means, and the effects of which will only manifest themselves proportionately to results obtained.

It was for the purpose of examining for himself the real state of things and judging of the most efficacious remedies which could be opposed to the evil, that the Governor General Van der Capellen undertook his voyage to the Molucca islands in 1824; a circumstance without a parallel since the voyage of the Governor Van Dieman in 1638.

The Molucca Islands, the native country of spices and up to the present time the only part of our possessions which yields us spices in abundance, form a government dependant on the general government established in Java. The governor resides at Amboyna, and has under his orders several residents and sub residents, the first are those of Amboyna, of Ternete and of Banda, while there are sub-residents at Saparua, at Hila and Larique, at Booro and Ceram, and lastly a resident at Menado and a sub-resident of Gorontalo (Gounong Tello); establishments situated on the coast and at the northern point of the island of Celebes, but which for a long time have belonged to the jurisdiction of the residency of Ternate as being nearer to this establishment than to the government of Macassar. Since the voyage of the Governor General in 1824, they have been definitively placed under the direct surveillance of the Governor of the Moluccas.

The island of Amboyna is situated in 3° 41' 41" northern latitude and 125° 47' of longitude east of the meridian of Paris; it consists of two very distinct parts called Hitou and Leytimor, which would be two separate islands, but for a strip of land which unites them, and which is not broader than a good half league, thus offering on two sides of the island a bay and an excellent anchorage for large vessels. It is in the largest of these two bays or that to the South that the Portuguese built the fort of Vitoria, which we have preserved and which is still found in good repair. In the interior but not far from the fort, we see the town of Amboyna, the principal establishment or head quarters of the Moluccas; the road leading to it from the port is bordered with very beautiful trees and two ranges of charming European houses, the most of one story; the town itself consists of several large and regular Streets, with brick houses of a true Dutch appearance. At half a league from the town, upon a plateau still more elevated, we find, by following a second umbrageous road, the country house of the Governor, at the foot a very steep mountain; this most agreeable residence called Batou gadja, is surrounded by beautiful gardens with rivulets of water as limpid as can be imagined.

The inhabitants of Amboyna possess two protestant churches, one of which is particularly reserved for natives who have embraced christianity; the number of these is very considerable, being increased above all in times past by the enlightened and uninterrupted zeal of the worthy pastor Kam, who preached the gospel in these countries.

The Amboiannese are of a middling height and well formed, and make good soldiers both for the cavalry and infantry; generally they have more taste for a military life than the other natives of the Archipelago; they are gentle although brave, easily managed and very sober. Their costume is nearly the same as that of the Malays in Java, but those who have been baptised are distinguished by the black colour of their outer garments; in place of the handkerchiefs with which the Malays cover the head, they wear round hats, with the hair plaited in a queue. They also wear shoes when in full costume. The cotton cloths, and other articles of our manufacture which the government send every year to the Moluccas find there a great outlet.

The climate of Amboyna is more healthy and agreeable than that of most of the countries situated between the tropics; the soil is in part rocky and arid, it is this in which cloves thrive best. Other parts however are of great fertility and the mountains are covered with a vegetation as rich as that of the island of Java; in its vast plains and along the shores are seen millions of coconut trees and sago palms of which the delicate flour furnishes the principal nourishment of the inhabitants. The culture of rice has not attained to nearly the same perfection there which it has done in Java; some attribute this to the policy of the old company who fostered as much as they could the culture of this grain, the favorite food of the inhabitants, in order the better to hold them in subjection; others attribute it to the laziness and natural indolence of the inhabitants which has increased still more in those who have embraced the christian religion. It is a fact that every year the government is obliged to send to the Moluccas a large quantity of rice from Java, for the consumption.

Coffee and indigo, according to experiments which have been made, succeed perfectly in Amboyna; in the gardens of some wealthy private persons are found all kinds of lemons and flowers which have been naturalized in Java. The vegetable kingdom here also affords precious woods from which the inhabitants extract medicinal and aromatic oils, such as, amongst others, the *cayou poutie*, and other woods which are used in cabinet-making: it is not at all unusual to see single pieces, round and flat, fitted for the tops of tables, of 6 and even 7 feet in diameter; however the most beautiful woods come to us from the island of Ceram.

But that which above all has made Amboyna so precious, is the culture of the clove. If the gold mines cost dear to the primitive inhabitants of Peru and of Mexico, the value of this tree so prized has often drawn upon those of the Moluccas violence less cruel and less sanguinary, yet too rigorous not to be deplored, the more so that they have stifled their industry, their agriculture, and their activity.

In an average year the crop of cloves may be reckoned at 250 or 300 thousand lbs. There are years, like those of 1819 and 1820, when this quantity has been much surpassed; but then in others the crops have been less; in 1821, it did not 100 thousand lbs.

The districts of Amboyna, of Haronko, of Larique, of Saparou and of Hila have been chiefly employed for the culture of the clove; they are subdivided into cantons, placed under the surveillance of native chiefs, having the title of *rajas* or *pattis*, but more generally known under that of *orang kaya*. In these cantons, the parks or gardens, called in Malay *tanah dati*, containing a certain number of clove trees, are found under the care and management of unaltered chiefs called *orang tua*; these direct all the plantations, the cultivation of the parks and the gathering of the fruits. This last commences about the middle of the month of October and often lasts two or three months. It is said that the average produce of a clove tree amounts to 5 or 6 lbs of cloves, although they have been known to give as much as 25 lbs. The tree itself is one of the beautiful ornaments of the creation; it attains very commonly a height of 30 or 40 feet; its branches do not stretch far from the trunk which is of a pale grey; its leaves are regularly renewed in the month of May; they are of an oblong form, of a deep colour. The clove tree begins to bear at 15 years, and attains the state of perfection at 20. The clove, in Malay *chinkah*, is at first of a clear green, then yellow orange, and at last of a deep red colour, indicating that it is ripe.

When it is wished to preserve the fruit to sow in new plantations it is necessary to leave it a month longer on the tree; during this lapse of time the clove swells and loses its aromatic odour; it is then that the clove ought to be sown as soon as it falls from the tree, and ought not to remain more than 24 hours upon the ground. For the rest, the clove can be equally multiplied by means of suckers which are found in abundance at the feet of old trees.

.. .. .
The residency of Banda, which, in the time of the Company of the Indies,

was a separate Government, is composed of several islands, of which the principal are: Banda or *Banda Neira* (situated in 4°30' of south latitude, and 128°18' of longitude to the east of Paris); *Gounong Api* so named from the terrible volcano which is found there; *Lonthoir* commonly called the high land, *Rosingain*, *Poulou Aii* and *Pinang*. The island of Rosingain has been little inhabited since the extirpation of spices which the company caused to be made there in 1634, a measure which forced the natives to emigrate and retire to Lonthoir and Pulo Aij: later however some liberated slaves (*Mardikers*) established themselves there and the Company caused several lime kilns to be built and planted jattia trees. There are likewise wild cattle to be found there; the hunting of which offers a source of amusement to the garrisons established in the Banda islands.

We shall confide ourselves principally to the three most remarkable islands and those which are exclusively reserved for the cultivation of the nutmeg, which has become for Banda what the clove is for Amboyna. These three islands are Banda Neira, Lonthoir and Pulo Aij. The two first, with the Gounong Api (which is unfortunately but too near and of which the malignant influence is often experienced, as much in the devastations which follow its frequent eruptions, as by the insalubrity which it occasions in the surrounding countries) form the road of Banda, as beautiful as safe, and perfectly defended by several forts of which the most remarkable are those of Belgica and Nassau on Banda Neira, and that of Hollandia on the heights of Lonthoir.

.. Its rich harvests of nutmegs (in Malay *bua pala*) and mace (*kambang pala*) its position and its superb roadstead, are nevertheless the only advantages of Banda; they are purchased at the cost of a great insalubrity, and of frightful earthquakes; which ordinarily precede or follow the eruptions of the volcano; the most strong of which have been, according to descriptions found in the archives, those of 1598, 1615, 1632, 1691, 1711, 1749, 1798 and 1820; while the most fatal earthquakes from their consequences, took place in 1629, 1683, 1686, 1743 and 1816. To give an idea of the confusion of the elements which takes place on such occasions, I will note, according to memoirs which I have looked over, some of the circumstances which occurred when the trembling of the earth and sea happened in 1629. On the 1st August at 9 in the evening, after the inhabitants had felt several very strong movements, the furious waves entered with such vehemence by the three straits of Lonthoir, Celamine, and that which is called the *Zonnengat*, that they raised and heaped themselves up to a height of 25 feet above the highest tides; many houses built on the east point of Fort Nassau were swept from their foundations and buried in the sea with their inhabitants; but these had already quitted their houses; they were as if by a miracle thrown upon the beach at the return of the swell, with the exception of the fiscal Van der Voort and his family. A canon of great calibre placed upon the jetty and weighing 3,500 lbs, was carried to a distance of 30 feet, and the hull of the ship *Amsterdam* and those of two other vessels which had been sunk with 400 tons of stones in each, to secure the jetty, disappeared without the wreck being ever found. In 1691 the ravages of the volcanic eruption were so terrible, that the more wealthy inhabitants emigrated to Ternate, Amboyna and Macassar; the courage and firmness of the governor Coyet, decided in not quitting his post, alone prevented the total abandonment of this establishment.

At present the administration of Banda is entrusted to a resident assisted by a secretary, an administrator in chief for the finances and stores, and an inspector of the parks of spices, having sub-inspectors at Lonthoir and Pulo Aij; there is also at Neira a council of justice, a bench of magistrates and an orphan chamber.

Missionaries are engaged at Banda in the propagation of the christian religion; from the earliest times of our occupation of these countries, this religion was embraced by a great number thereof natives of this part of our possessions in

the Asiatic Archipelago, principally by the inhabitants of the coasts; in the mountains are found others, still pagans, to whom are given the name of *Al-fouras*; they are said to be very cruel and savage, but it appears that this reputation is exaggerated, perhaps unjust.

We have already said that the principal return of Banda, of which the soil is generally stony, is the crop of nutmegs and mace; the other cultures are very trifling and Government is obliged to provide regularly for the supplying food in these islands by sending rice from Java. The canari tree however is found abundantly in the jungles, the nuts of which are collected by the inhabitants and from which they make an oil superior to that of the coconut, the *sayower* from which they prepare a fermented drink: also lime trees, bamboo and cocoa-nuts, all productions of nature, which the Indians of the Archipelago know how to use in so many useful ways.

Banda can furnish annually 500,000 lbs of nutmegs and 150,000 lbs of mace; this is not, as some persons suppose, the flower of the nutmeg, but the internal envelope of the nut; it is found as a tissue between that and the husk or exterior green skin.

The tree which furnishes these two productions is one of the most agreeable to the eye, at least I thought so when for the first time I saw a number loaded with fruit at Pondokgedé, where they border the large walks of the magnificent garden belonging to the nestor of our eastern possessions, the worthy M. W. Engelhard. The nutmeg tree attains a height of 35 to 40 feet; it has some resemblance to our European pear-tree; its leaf is of a deep and shining green. Commencing to bear fruit about its ninth year, the tree produces during more than half a century, if care is taken to shelter it properly, which is done at Banda, by placing it in plantations of canari trees or of wild nutmegs, which the inhabitants call *pala boeij*; these have the same leaf and flower, but they give no fruit.

When the flower of the nutmeg falls, it is replaced by the out; this requires several months to attain maturity, when it is of the size and the form of an apricot; its skin of a yellowish green, opens and displays the nutmeg covered with its mace of a beautiful red colour. The average annual produce of a tree is calculated at 5 or 6 lbs of nuts; there are some however which give from 15 to 20 lbs. Although the nutmeg bears during the greater part of the year, the principal crop is in August, and a second in November and December. These crops are liable to turn out more or less good; good nuts are sometimes ill provided with mace and often on the contrary very inferior nuts are accompanied by a superior mace.

The nuts, carefully withdrawn from their green exterior skin and from the mace, are exposed to the smoke during two or three months upon frames or hurdles in buildings constructed for the purpose (*kombuisen*) and then deprived of a last interior and very hard shell, an operation which is called *afskiopping van de noot*, in order speedily to be steeped in lime mixed with sea water. This method of preparing the produce requires the greatest precautions, for it is very delicate and very easily deteriorated. The mace ought to be thoroughly dried, but by the sun or wind; sometimes the planters, when the season is humid, secretly avail themselves of the smoking frames (*rook parra parras*) to accelerate the operation; but then the mace acquires an inferior colour and sweets more slowly, when it is exposed during the voyage to the heat at the bottom of the hold.

The mode of cultivating the nutmeg at Banda is quite different from that pursued with the clove at Amboyna; it has rather some resemblance to the process which is employed in the Western colonies, where the work is performed by slaves. In 1621 when, as we have mentioned, Banda Neira and Lonthoir were completely subdued, but at the same nearly depopulated, it was necessary to obtain the means of continuing a culture which had been the real end of a war as long as it was sanguinary; the Company decided on colonising this part of

its possessions, by engaging Europeans settled in Java and elsewhere, retired militarymen, or other individuals having the burgher right to whom they distributed lands in Banda *gratis*, under certain restrictions, of which the principal was the exclusive delivery of spices to the Company, at a fixed price. This concession of lands was accompanied by some very advantageous clauses; for example, they were bound to furnish the planters with rice at the Java price, and with slaves at 40 rix dollars a head; thus, in the space of five years this operation was accomplished and the parks distributed amongst the colonists, who then called themselves and are still called *perkeniers* (parkkeepers); at this epoch, there were at Pulo Aij 31 parks, at Lonthoir 34, and at Neira 3 parks each,* of 25 *souls of land* (*zielen land's*). It is said that this singular denomination was given from the quantity of trees which it was calculated a slave could take care of, having regard to difference of lands more or less advantageously situated; others assert that at the first distribution of spice gardens, the soul of land was fixed at 50 square perches (garman roods) and that when this division was made, it was calculated that a park of 25 souls would be sufficient to bring in to its proprietor annually a sum of 625 to 650 rix dollars. This revenue was naturally increased in proportion to the pains bestowed on the culture and to the new plantations which the park keepers made in their parks; but they had much expense, above all in the maintenance of the slaves for the culture; and after the cessation of the agreement they experienced great difficulty, from not being able to replace them. But the government, by sending to Banda the natives sentenced by the competent tribunals to a long term of banishment, afford to the park keepers the means of engaging them to work in their parks. This measure has besides the double advantage of favoring an interesting branch of agricultural industry, and of serving to reclaim to a laborious and honest life those who without this would not only be useless, but at the same time nuisances to society.

In general this experiment of European colonisation at Banda, does not give a very favorable idea of the advantages which the partisans of colonisation on a large scale, promise themselves from the alienation of lands to European planters (sketches of M. de Huan p. 288). On the contrary, the example of what has occurred at Banda is rather calculated to inspire government with well founded scruples against a state of things which, if they at all extend it to other lands than those still *uncultivated* and *unpeopled*, like the Banda islands, must besides entail a diminution of the public revenues.

The European colonists, to whom the company conceded the nutmeg parks at Banda, with scarcely any exceptions, soon abandoned themselves to an indolent and dissipated life; they left the task of cultivation to some infirm slaves, for the best were employed in house work or in other labours; they only regarded the lands which had been entrusted to them, as a means of procuring money by hypothecating them upon loans, and to have constantly at a low price, slaves, rice and provisions, which the company had engaged to furnish them at prime cost. Their heirs or those who succeeded them in the possession of these lands, did not conduct themselves better, thus this class of colonists at all times vegetated in a state of misery, of ignorance and of irregularity; nearly all the park keepers were overwhelmed with the weight of debts which they had successively contracted by pledging their parks. The amount of these debts, to the company alone, already amounted in 1796 to more than 300,000 rix-dollars, according to the report made by the governor F. Von Boeckholtz 29th March, 1798.

If some of the inhabitants of Banda acquired riches, they did not at all owe them to agricultural industry, but to smuggling and trade with the Arauw islands, where they sent shipments under the care of slaves whom they had procured for the labor of the parks. Some individuals have made in this way,

* By the union of some of these parks, there are only at present (1830) 25 at Lonthoir, 6 at Pulo Aij, and 3 at Neira.

an immense fortune ; in the memoir which I have quoted, we read of a park keeper of Pulo Aij, named V. D. B., who having been about the middle of the 18th century brought to justice and condemned to hard labour, offered to pay a hundred thousand florins to the company, for permission to wear a gold chain instead of an iron chain with which he was loaded, like the other malefactors. He possessed, it is added in the memoir, three parks and more than 1,200 slaves.

The residency of Ternate is formed of the island of that name and that of Tidore, which may be said to be its twin sister, although larger and more populous, as there is a resemblance in the high mountain which rises in both of them, and of which the summits, of a pyramidal form, are about the height of 6,000 feet above the level of the sea. Some small islands, situated in the vicinity, depend also on this residency ; the principal are Batjan and Motir. The residency of Ternate contains also the Dutch establishment upon the coast of Gilolo, an island at least ten times larger than both Ternate and Tidore.

The island of Ternate, situated in $0^{\circ} 52'$ of north latitude and $125^{\circ} 12'$ longitude to the east of the meridian of Paris, belongs to a mahometan Sultan who resides there, and whose *dalem*, as large as magnificent, is built between the town of Ternate and the Dutch fort Orange. One of the predecessors of the sultan, as well for himself as for the Sultans of Tidore and Batjan his vassals, concluded a treaty of alliance with the Company of the East Indies, by which he ceded a part of his sovereign rights in exchange for an annual pension. This Sultan consented besides to the extirpation of all the spice trees which were to be found or which afterwards might be found in his immense domains.

This condition recalls to us the devastating system of monopoly, and the spirit of the times in which it was made ; but it has ceased to exist and the Baron Van der Capellen during his stay at Ternate, by his decree of the 27th May, 1824, not only broke the shackles which weighed down the industry, and proscribed the culture for which these countries appear to be destined by nature, but on the contrary he encouraged it by fixing a very reasonable price for the cloves, mace and nutmegs which the inhabitants deliver to government, viz : 10 sous per lb for cloves, 12 sous per lb for mace, and 8 sous per lb for nutmegs.

The town of Ternate is beautiful and very well built, in the form of an amphitheatre upon the borders of the sea ; as the country rises rapidly, we may find ourselves, on advancing a few leagues into the interior, at a considerable height, and there enjoy the pure air of the mountains, of a temperature nearly similar to that of the south of Europe.

In general, the soil of the islands which compose this residency of Ternate, is extremely good and fertile, it certainly produces all kinds of tropical productions. These islands are well populated, the inhabitants are gentle, tranquil and sober ; indolent because they have few wants and because, in the they are time of the Company, no effort was made to stimulate their industry. Those of the island of Motir exercise the calling of potters ; they supply the surrounding islands with their pottery of red earth, which, without being of an elegant form, is of a good quality. The christian religion has already made many proselytes there, above all in the neighbourhood of Ternate and in the island of Batjan or Batchian.

Under the administration of the Company, the establishment at Ternate was considered as the most important, for the maintenance of the exclusive commerce in spices of the Moluccas ; at present it is still so for the defence of these possessions and for our commerce, in general, in the Indian Archipelago.

Ternate, during the late maritime war was several times attacked by powerful English forces, but they could not make themselves masters of it, before the surrender of Java, thanks to the firmness of the courageous governor V. Bodach, to whom this post was entrusted.

Cotton cloths and other productions of our manufactures find a favorable market in these countries ; this trade will extend itself considerably, when the agricultural industry has made progress there.

As regards soil, climate and the friendly disposition of the inhabitants, Ternate would offer the greatest advantages if a European colonisation were introduced there.

The Dutch administration there is composed of a resident assisted by a secretary and two employés, having the rank of assistant resident at Galela and Bitjolie in the island of Almaheira or Gilolo.

These establishments were formed in 1824, during the voyage of the Governor General van der Capellen; his object in this was to protect the inhabitants, to encourage their agriculture and their small commerce.

Ternate possesses also a magistracy, a council of justice, and an orphan chamber.

I cannot better conclude this sketch of the Molucca islands, than by here subjoining the following balance or the result of a year's receipts by the state and the expenses for the Government and the defence of these possessions.

1822*	Receipts.	Expenses.
Amboyna & its dependencies.	f 853,286.25.12	970,148.27.15
Banda.	795,940.06.04	571,082.27.12
Ternate.	94,447.15.12	329,268.04.09
Menado and Gorontalo.	315,740.16.08	185,517.04.04

Total.	f 2,059,415.04.04	2,056,017.04.07
Excess of receipts.		3,397.29.13

f 2,059,415.04.04

The establishment of Ternate appears in this year to have given the most unfavorable results; in examining more closely the different articles of the receipts and expenses, I find that in 1822, this possession was debited with a sum of f 104,618.18.07 for cloths &c of which they had not sold, and credited more than the sum of f 60,361.08.00; it ought to be remarked that the pension of the Sultan figures here for f 31,990.00.00, an expense which does not exist in the other islands.

The sales of cloves of Amboyna, amount in 1822 to the sum of f 503,183.17.04 while the expenses of culture do not come to more than f 68,812.28.04. The culture properly speaking or the purchase of spices of Banda cost f 89,918.00.00; the sale of these spices produced f 563,145.25.00 according to the general books kept at Batavia.

* It is proper to add here that already in 1824, after the tour of inspection of the Governor General to the Moluccas, the expenses have been very much diminished; principally in respect to the system of defence and provisionment; the expenses of the war department having been diminished f 240,000, by reducing the number of superior officers, & others &c.

MISCELLANEOUS NOTICES, &c.

NEW PUBLICATIONS RECEIVED.

1. *The American Journal of Science and Arts*, conducted by Professors B. Silliman and B. Silliman, Jr., and J. D. Dana, Vol. V. No. 14.

Contents :

Extract from a Discourse pronounced by M. Elie de Beaumont at the funeral of M. Alexandre Brongniart, October 9 1847. On the Production of Light by Chemical Action; by Prot. John William Draper, M.D. — ari-cography; by C. Dewey, D.D. — On the Parallelism of the Palæozoic Deposits of North America, with those of Europe; followed by a Table of the Species of Fossils common to the two Continents, with indication of the positions in which they occur, and terminated by a critical examination of each of these species; by Ed. de Verneuil. Translated for this Journal, by Mr James Hall. — On the Reaction of solid Carbonic Acid with Alkaline and other Bases; by Wm. F. Channing, M.D. — Historical Notice of the Discovery of the Planet Neptune; by Professor Loomis of the New York University. — Notes upon the Drift and Tertiary of Ohio and the West; by Charles Whittelsey. — A Memoir of Dr. Douglass Houghton; late state Geologist, and Professor of Geology and Chemistry in the University of Michigan. — The Sphere and least Circumscribing cone; by Prof. E. S. Snell. — Objections to the Theories severally of Franklin, Dufay and Ampère, with an Effort to explain Electrical Phenomena by Statical or Undulatory Polarization; by Prof. Robert Hare, M.D. — An Account of a Compound Achromatic Microscope, made by Charles A. Spencer of Canastota, N. Y.; by Prof. C. R. Gilman, M.D. — On Chloroform, by B. Silliman, Jr., A.M. — Proceedings of the American Association of Geologists and Naturalists at Boston, September, 1847. — I. Upon some of the Results of the Palæontological Investigations in the State of New York. — II. Prof. Gae on the Natchez Bluff Formation. — Abstract of a Meteorological Journal for the year 1847, kept at Marietta, Ohio; by S. P. Hilbreth, M.D. — Scientific Intelligence.

2. *Transactions of the China Branch of the Royal Asiatic Society.*

Contents :

Preliminary Address. — Remarks on the Acquisition, Common Tenure and Alienation of real property in China. — Notes on the Taïen, or Copper Cash Chinese. — On the Mines of the Chinese Empire.

3. *A Dissertation on the Theology of the Chinese, &c.*, by Dr. Medhurst.

4. *An Enquiry into the proper mode of rendering the word God in translating the Sacred Scriptures into the Chinese language*; by the same.

5. *The Chinese Repository* Vol. XVII. No. 11.

Contents :

Reply to the Essay of Dr. Boone on the proper rendering of the words *Elchm* and *Theos* into the Chinese language, contained on pp. 17, 57 et seq. By W. H. Medhurst, D. D. (Continued from page 529).—Notices of Works upon the regions west and north of China, and Travels into India, written by Chinese authors, between the 6th and 18th centuries of our æra. By S. Julien.—Reading the Sacred Edict, a system of instruction adopted by the Chinese government for the moral benefit of the common people.—Illustrations of Men and Things in China: Religious education of children; gambling on the price of cash; seals; leaf pictures.—Journal of Occurrences.

6. *Taman Pungatauan* No. 14.

Contents :

Sa'orang Budak Hutan.—Dua Orang Adek Bradek.—Sa'orang Prum-puan Nugri Kanaan.—Hikayat Orang Inggris.—Umpat Mun'gumpat.

In order to bring the existence and objects of this Journal to the knowledge of European Missionaries residing in the less frequented parts of the Archipelago and Eastern Asia, and with the hope that they would be induced to contribute to it, we continued for 12 months to present it to all whose names and addresses we could ascertain. At the end of that period we limited this distribution to a few gentlemen at each station, and we now intend to send copies to those only who have acknowledged the receipt of the numbers hitherto forwarded. As the presentation of a large number of copies is attended with considerable expense, we shall adopt a similar rule in future with respect to scientific societies and editors of journals. While the principal societies in England, such as the Royal Society, the Linnæan, &c., and all the Indian ones, have acknowledged the receipt of the Journal, and most of the editors of periodicals to whom we presented copies have favorably noticed it, and sent or offered to send their publications in exchange, there are some who have continued to receive it from its commencement without any acknowledgment direct or indirect. We shall continue to send it to all the leading societies, a list of which we formerly published, and repeat an expression of our readiness to send it to any others that may inform us of their desire to receive it.

To Contributors we shall continue to send a copy of the Journal, and 10 copies, printed separately, of their contributions.

MISCELLANEOUS NOTICES, &c.

PANGHULU KISANG.

Panghulu Kisang, feeling aggrieved by the remarks made by the Revd. M. Favre, respecting himself and his family in this Journal (ante p. p. 59-61), which had been brought to his notice, called upon us to complain of their insertion, declaring they were very injurious and undeserved. We told him that if he would send us his own version of what passed between M. Favre and himself, we should give it the same publicity as the narrative of the former, and we now do so. We regret that we did not communicate with M. Favre before this portion of his journal appeared. As it is, we trust his good sense will satisfy him of the inexpediency of returning to the subject. If he considers the Panghulu's statement too strongly worded, he, like us, will know to make allowance for the offended feelings of an old man, who enjoyed great consideration in former days as one of the principal ministers of the late Sultan and Tamaŋgong, and is still much respected and consulted by the present Tamaŋgong.

Considering the closeness of our relationship to Johore and its rulers, we think that greater facilities for travelling in this country should exist. All difficulties and attempts at exaction might be prevented by certain rates being fixed for the hire of guides, boats, &c., and the different Panghulus and Batins being instructed to provide them for visitors who produce a passport from the Tamaŋgong. The advantages which the Malayan rulers derive from their connection with us in Singapore, and the consideration with which they are treated, claim from them something more than a mere permission to enter Johore, and the readiness with which the Tamaŋgong complies with individual applications for letters to his Panghulus, which invariably procure the utmost attention to their bearers wherever they go, shews that no obstacle would be made to such a measure as we have suggested.

Panghulu Kisang's Statement.

Inilah peringatan saya Panghulu Kisang, iang diwakilan oleh raja Tamaŋgong māmrintakan didalam suŋge Binut.

Shahadan ada kapada suatu hari datang sa'orang orang puteh dia kata baŋgsaŋya Fransis, lagipun padri; diapunya kawāndua orang, sa'orang orang China, dan iang sa'orang Nasrani, jadi tiga orang; tatapi sakatiga itu saya tiada di rumah, saya pārgi bērmāin main tāŋkap ikan, kamdian saya pulang di rumah, ada kera kera jām pukul āmpat satīŋgah pītang saya sampei di rumah; adapun sabālumnya saya sampei dirumah, itu tuan saya punya orang suda kasi tāmpat satu rumah kichil sābāb tiada rumah iang bīsar, kīrna didalām butan orang pāladang padi tiada punya rumah bīsar, ada rumah bīsar sidikit tāmpat saya diam. Adapun saya hinda' bawa tāmpat saya diam itu, orang pun banya' saya fikir barangkali tuan bising tida suka orang bawia' hīŋgar hīŋgar, iang saya suda mālūgharti tuan tuan tiada suka bising bising, sābāb itulah maka saya kasi tāmpat satu rumah iang lain, tātapi tiada juga jau dīngan rumah saya. Kamdiīn deripada itu maka saya tanya "tuan datang deri mana, dan kāmāna hīnda' pārgi?" Maka dia kata "saya datang deri hulu Johor, hīnda' pulang di Malaka, maka sakarang ini saya suda sampei kapada Paŋghulu punya tāmpat malainkān saya minta tolong sama Paŋghulu, minta hantar saya di Malaka" sirta ditunjokānnya chap Sultan Ali. Maka saya kata "bai'lah tuan, saya buleh tolong, māski pun tiada chap Sultan Ali pun, kārna tuān suda sampei saya punya tāmpat, iang tuan minta tolong misti saya tolong tiada buli tiada, kārna saya punya tuan, ia itu raja Tāmāŋggong, kasi hukūm pada saya jikalau tuan tuan barang siapa iang dapat sukār sakit di sunge atau di laut misti Paŋghulu tolong sama itu orang iang dapat kasakitan dan barang sabaginya, mana mana orang kaskitan misti paŋghulu tolong juga." Kamdiīn itu tuan kata "bai'lah Paŋghulu bulih hāntar saya ini hari juga tiada bulih tida" Maka saya kata "ini hari bīlum bulih saya hantar kīrna prahu pun bīlum sadia, orang pun bīlum lagi dapat malainkan saya minta tempo beso' hari saya chari prahu dan orang, dan sa'par-kara lagi saya orang Malayu punya agama ini bulān samoanya orang puasa, dan hari pun suda hampir malam, lagi pun mau chari apa apa hinda' buat makan sakarang malam, itulah sābābnya maka saya minta tempo beso' bari" Maka itu tuan kata "apa Paŋghulu ini tiada di bawah parintah Sultan maka Paŋghulu tiada mandīŋgar saya punya kata, malainkan saya hinda' ini juga, tida buli tida." Maka saya kata "tiada saya ini dibawa parinta Sultan Ali, saya ini dibawa parintah raja Tāmāŋggong, akān tātapinya mīski pun bukānnya saya dibawa parintah Sultan Ali jekalau Sultan Ali manyuroh mīsti saya krejakan tida buli tida, akan halnya sipīrti kāhanda' tuan itu ini juga malainkan saya tiada chakap sabab hari hīnda' malam, orang orang pun samoanya puasa, lagi pun orang malayu tiada

buli kreja dŕngan likas, sabab tiada iang sidia, dan jekalau sipirti kreja kompani buli dŕngan lakas sabab suda sidia" Maka itu tuan pun bania' mara pada saya sabab saya kata iang dŕmikian itu, tatapi tiada saya ambil sakit hati itu tuan mara pada saya. Dan beso' hari saya suroh chari prahu, sudah dapat, tatapi bilum sidia, kŕrna lagi ada bochor bochor dan orangnya bilum sidia, kŕrna orang tiada barkompul ada iang kasana ada iang kasini, malumlah didalam tempat orang pŕladang rumalnya tiada barkompul, jadi sampelali hari iang kati-ga bharulah sidia prahu dan lima orang iang buli maŕngantar tuan itu di Malaka. Ada pun didalam tiga hari itu dia dudo' didalam saya punia tempat, samoanya saya kasi dŕngan tikar dan bantal dŕngan klambu dan makanannya iang mana mana sipirti adat orang, dan lagi sipirti bakal makan makanan, dan orang iang maŕngantar tuan di Malaka, samoanya chukop tiada bŕrkorang; dan saya bilang dŕngan dia "deri fasal itu prahu dan orang iang maŕngantar di Malaka ini tiada sewa dan tiada upa, dan lagi tatakala dia hinda' bŕrlayar saya hantar dŕngan empat lina blas orang kasi hormat dŕngan dia hŕngga sampei di kwalla Binut. Maka sudalah dia bŕrlayar komdian saya punya orang suda datang bale' deri Malaka maŕngantar i utuan. Maka saya tanya kapada saya punia orang "suda sampei itu tuan di Malaka." Orang orang itu kata "suda samoanya di Malaka, tiada suatu marbayanya, siŕnga di Padang sabantar bŕrjumpa dŕngan raja Tāmāŕggong dan Iuchi Umar di Padang tatakala datang dŕngan kapal api manchŕri orang jahat. Komdian itu tuan suda sampei dŕngan slamatnya di Malaka dŕngan tiada suatu merbahyania dijalan.

Maka itu tuan māmbuat suatu binchana ditaroh didalam surat khābār brapa brapa banya pārkara iang ditarohnya didalam surat khābār, iang iang tiada diadakānya dan iang ada ditidakānya; pŕrtamatama iang dia kata tātākala dianya datang mandapatkan saya minta hantar di Malaka maka saya tiada malu sabab saya tida māmangil tuan datang pada sayapunya tāmpat, dan bukannya sayapunya krija mau maŕngantarkān, tātapi sākalikali tiada saya barkhabar iang sābagitu; dān lagi dia bŕrkata saya suroh ŕorang bihchara minta wang upah atau tabusān, itupun sakalikali tiada saya mānyurohnya; dan lagi sākliŕn orang orang bārkompul didalam saya punya rumah māmbuat gadoh tiāp tiāp malām sipirti orang māŕngutŕngut sipaya orang buleh takut buleh lari, deri hal orang bŕrkāmpul sitiaptiap malam itu ada bitul, kŕrna orang Malayu pada bulan Puasa ini sikliannya orang orang mēmbuat aual sambahyang tirawe dan mēŕgaji, pāsti bunyinya gadoh, bukannya hinda' maŕngutŕngut pada dia; dan deri hal samoanya kata padri itu dusta tiada buleh di-

dīngar sekalikali ; dan lagi tatkala dia hīnda' bērlayēr saya mēngantar sampei di kwala. Bīnut ada limablas orang kasi hurmat pada nya, maka dia kata saya sipirti orang takut saolaolanya minta ma'af barangkali takut tuan itu mēngadu di Malaka pada orang bisar barangkali saya dapat salah ; tetapi saya tiada iugat iang sabagitu, tatapi saya fikir itu tuan tiada tahu hadat Malayu. jikalau dia tahu hadat Malayu dia tiada bilang bagitu macham, dan lagi dia kata saya tutop satu domingo itupun dusta juga dia bērhēnti tiga hari sahaja lamanya, dan lagi dia bērkata ana' saya bisar sēkali sikian tahun dahulu suda kīna gantong di Pulau Pinang sabab māmبونoh orang, lagipun mārompa di laut, itu dusta dāngan trang sakali, tiada upaya bērsulo lagi dustanya padri itu ; dan lagi dia bērkata kaum saya sikliannya ada menjadi pērompa' laut, itu pun dusta, tiada sēkalikali saya punya kaum iang mēnjadi pērompa' atau orang jahat, adapun anak saya iang bisar sīkali tiada iang lain hanyalah satu Abdul Jabar iang suda Sultan jadikan Paughulu ada diugan ruma ada diugan tananya di Siṅapura ini ; maka sikian tahun dahulu dia pirgi bērniaga kanāgri Riteh maka sanpēi di sana mēndapat sakit dan suda mati dianya di sana, dan dibawa mayitnya ka Siṅapura ini, adalah di tanāmkān di Tilōh Blaṅga di bukit raja Tāmuṅgong, dan siklian hal elwā'nya orang orang didalam Siṅapura ini banya juga iang tabu, dan dia punya pīsaka tana suda tuan bisar sirah pada bininya dan ana'nya, adapun saya iang suda bāgini lama banya' juga orang bisar bisar dan saudagar saudagar dau tuan tuan sikliannya kīnal kapada saya dan kapada ana' saya, tatapi satu pata khabar iang tiada orang menyabut khabar iang jahat adanya. &c.

Translation (nearly verbatim.)

This is the reminiscence of me Paughulu Kisang, who am deputed by the raja Tamaṅgong to rule in the river Bīnut. One day there came a white man, who said his race was French, and that he was a priest ; his companions were two, a Chinese and a Portuguese ; making three persons ; but at the time I was not at home, having gone to amuse myself with catching fish. Afterwards I returned to the house, which I reached about $\frac{1}{2}$ past 4 o'clock in the afternoon. Before my arrival my people had given the gentleman a place, a small house, there being no large house, because planters of paddy in the forest have not large houses. The place where I dwell is a house a little large, I wished to

bring him to this place where I dwell, but there were many persons, and I thought "perhaps the gentleman will be annoyed and not like many persons clamoring," for I knew that gentlemen do not like to be disturbed, for that reason I gave him a place in a separate house, but it was not far from my house. After that I enquired "From where have you come, and where do you intend to go?" He replied "I have come from the higher part of Johore and intend to return to Malaka, I have now arrived at the Pañghulu's place that I may ask assistance of the Pañghulu, and beg that he will convey me to Malaka" at the same time he shewed the chap of Sultan Ali. I said "very well, sir, I will assist you even although you had not the chap of Sultan Ali, because you have arrived at my place and asked assistance I must assist you, there can be no denial, for my lord, that is the raja Tamañggong, gave it in command to me "if any gentleman whosoever meet with difficulty or distress, in the river or at sea, the Pañghulu must assist the person who is distressed whatever may be the nature of the distress, be the distressed person who be may the Pañghulu must nevertheless assist him'" Then the gentleman said "Very well the Pañghulu will convey me to-day, there can be no refusal." I replied "This day I cannot yet convey you, because the boat is not ready and the men have not yet been found, therefore I ask time till to-morrow when I will seek a boat and men; another thing is that this month by the religion of us Malays everybody fasts, and the day is now near night, moreover we must seek for wherewithal to make a meal now it is night, this is the reason why I wish time till to-morrow." On this the gentleman said "What! is the Pañghulu not under the rule of the Sultan that he does not listen to what I say? I wish it to be done now, there can be no refusal." I said "I am not under the authority of Sultan Ali, I am under the authority of the raja Tamañggong, but although I am not under the authority of Sultan Ali, yet if Sultan Ali order I must work, it cannot be otherwise. But as for the like of what you wish to be done now, I do not speak, for the day is about to close, the people are all fasting, moreover Malays cannot set about a work quickly for they have nothing ready, if it were like the Company's work it could be done quickly because things are in readiness." The gentleman was very angry with me for speaking thus, but I did not take offence at this. Next day I ordered a prahu to be sought and it was procured, but it was not ready for it was leaky, and its crew were not ready for the men

were not yet collected, some being there, some here, for every body knows, in the places of planters the houses are not collected together; so that it was the third day before the prahu was ready with five men to convey the gentleman to Malaka. During the three days he remained at my place I furnished him with every thing, mats and pillows with curtains and with his food agreeably to what is customary, and likewise provisions for the voyage, and the men who conveyed the gentleman to Malaka, everything was complete, nothing was wanting, and I said to him "Concerning the prahu and the men who are to convey you to Malaka there is no hire," and further when he desired to sail I escorted him with 14 or 15 men, to give him honour, as far as the mouth of the Binut. So he set sail, and afterwards my people returned from conveying the gentleman to Malaka. And I asked them "Did the gentleman arrive at Malaka?" The men said "They are all at Malaka, nothing happened, we touched at Padang for a little. We met the raja Tamanggong and Inche Umar at Padang when they came in the steamer in search of bad people. After that the gentleman arrived in safety at Malaka, without having encountered any danger on the way."

Now this gentleman devised an ill thing and placed it in the newspaper, many were the things which he put in the newspaper, such as were not, he made to be, and such as were, he made not to be. First of all, he says that when he came to me and asked to be conveyed to Malaka I would not do so, because I had not invited him to come to my place, and it was not my business to convey him. But I never once spoke thus. Then he says that I told persons to ask him for money for hire or ransom. But I absolutely deny having given such an order. Further he says that every night persons assembled in my house and made a noise as if creating terror to induce persons to run away. As for men assembling in my house every night, it was the fact, because with the Malays during the month of Puasa, all persons perform pious works, pray and read the Koran, and the noise of this of course disturbs. It was not made with the intention of frightening him. And as to all the matters related by the Priest they are untrue, and not to be listened to at all. Moreover when he wished to sail I escorted him to Kwalla Binut, with 15 men to give him honour, but he says that I was like a person afraid that he would complain at Malaka to the authorities and that I might be blamed. But I had no thoughts of the kind, I thought however that this gen-

tleman did not know the manners of the Malays, if he had known the manners of the Malays he would not have spoken in that way. He also says that I confined him for a week. This is also untrue, he only remained three days. Further he says my eldest son some years ago was hung at Pinang for murder and piracy. This is most evidently untrue, I have not power to throw light further on the Padrè's untruths. He adds that all my family are pirates. This is untrue, never have any of my family become pirates or bad persons. As for my eldest son, I have had none but one, Abdul Jabar, who was made a Panghulu by the Sultan and who had his house and land at Singapore. Some years since he went to trade to Riteh, where he became ill and died. His corpse was brought to Singapore and buried at Teloh Blangah on the rajah Tamangong's hill. There are many persons in Singapore who know all about him. The land which he left was made over by the Governor to his wife and children. For myself who have lived so long, many are the great persons and merchants and gentlemen who have all known me and my son, but not one word has any person spoken in accusation of us &c.

THE SARAWAK FLEET.

(Sarawak, 23rd March, 1849.)

As some discussion has recently taken place on the size, and armament of the Dayak pirate prahus of this coast and their complements in men, your readers may be interested in the following list of the Sarawak fleet now ready for sea, and the average of men to each prahu is somewhat lower than the average of the prahus of the Serebas and Sakarran Pirates. The largest Sarawak prahu does not exceed ten ton, and the piratical prahus are less in tonnage though of greater size on account of the very great overhang of the stem and stern. The Sakarran and Serebas fleet fully collected, can put to sea with 200 prahus (or as they are here called "Bankongs") and within the last three months they have captured several trading boats, devastated two rivers, burnt three villages and slaughtered fully four hundred persons,—men, women and children.

There is a report at the present moment that the Serebas and Sakarran are out at sea with from 60 to 100 prahus, and that they have captured the town of Gadong in the Sadung river.

To save these people, if it be possible, to protect the coasts, and to punish the pirates, Sir James Brooke goes out to-morrow to cruize, accompanied by the boats of the H. C. Steamer *Nemesis*, and it is to be hoped that a blow may be given to the Pirates.

Why does the Navy sleep. Where is Captain Keppel?

No.	1	"Rajawali itam"	..	..	60	men
	2	"Harimau"	..	..	45	"
	3	"Ular"	..	..	30	"
	4	"Nuri"	..	..	35	"
	5	"Pinyu"	..	..	40	"
	6	"Peniangat"	..	..	35	"
	7	"Kijang"	..	..	35	"
	8	"Buaya"	..	..	50	"
	9	"Ani-ani"	..	..	20	"
	10	"Katak"	..	..	25	"
	11	"Ayam"	..	..	35	"
	12	"Merapati"	..	..	3	"
	13	"Tupei"	..	..	25	"
	14	"Alang laut"	..	..	40	"
	15	"Bujang brani"	..	..	25	"
	16	"Layang-layang"	..	..	20	"
	17	"Pipit"	..	..	20	"

Manned by Sarawak Malays.

17 a 20	Sibuyow Dayak Bankongs each	30	men.
20 a 26	Samarahan Malays	30	„
26 a 28	Ditto Dayak Bankongs	30	„
28 a 32	Lundu Dayak ditto	35	„
32 a 35	Seriki Malays	40	„
35 a 55	Linga Dayak	35	„

T. No. 55Total number of men 1,797Making an average to each prahu of nearly 33 men.

A. C.

watching them till they sunk and merged into the liquid mass. It is almost beyond the conception of those who are unacquainted with Burmese customs, or who have not had an opportunity of witnessing a scene like the present, to imagine the amount of costly offerings that were given during the day. We ourselves saw, during the short time that we were present, about seventy precious stones, consisting of rubies, diamonds, sapphires and emeralds thrown into the crucibles, besides large quantities of gold and silver ornaments and coins. The materials of the bell being supplied by voluntary donations, and most of them while casting, there can be but little attention paid to the kind or proportion of the metals used in its composition. That there might be no lack of the good things of life to keep up the strength and spirits of all engaged in this important task, there was a shed adjoining that in which the furnaces were placed, plentifully supplied with water, betel, cheroots, food, fruits, &c., which were placed there and distributed gratis, by the charitable and pious portion of the people. When a crucible was ready, it was lifted from the furnace by bamboos, two at the side and one above, which were quickly lashed to keep it steady, and with a cry of "clear the way," it was carried to the mould. It was there received by the master and his men, who were stationed on the top, and who, before pouring in the metal thrust some rags into the mouth of mould as well as in the crucible, which burned and created a bright flame through which the metal was poured into the mould. This cloth was plentifully supplied by the surrounding Burmans, who threw off and gave their turbans in hundreds for the purpose. The supply of metal from the forty furnaces, was continually kept up, with an average interval of two or three minutes between each crucible. The smelting operations commenced at gun-fire on Thursday morning and were completed at gun-fire the same evening; occupying about fourteen hours. When the last crucible that filled the mould was poured in, an old Burman ascended to where the master of the operations stood, and offered a padso full of valuables to cast into it; but it was too late, the bell was finished, and the old man departed deeply disappointed at being excluded from adding his mite to the general contribution. Shouts of joy and gladness from the assembled crowd, at the so far successful termination of their labours, rent the air; and the scene closed with a dance and song of triumph, in which all present joined, ourselves expected.

NEW PUBLICATIONS RECEIVED.

1. *The American Journal of Science and Arts*, conducted by Professors B. Silliman and B. Silliman Jr., and James D. Dana, New Haven, Nos. 10, 11, 12, 13, 14, 15, 16, and 17. (from the Editors.)

We can only give the contents of the last number of this well-known and most valuable journal :—

Contents :

On the Indian Archipelago, (from the 1st No. of the Journal of the Indian Archipelago)—On the Anomalies presented in the Atomic Volume of Sulphur and Nitrogen ; with remarks on Chemical Classification, and a notice of M. Laurent's Theory of Binary Molecules ; by T. S. Hunt.—Upon the Influence of Color on Dew ; by Prof. John Brocklesby.—A new Method of extracting Pure Gold from Alloys and from Ores ; by C. T. Jackson, U. S. G. S.—Discovery of Tellurium in Virginia ; by C. T. Jackson, U. S. G. S.—Upon a peculiar kind of Isomorphism that plays an important part in the Mineral Kingdom ; by Professor Scheerer.—English Prefixes derived from the Greek ; by Professor J. W. Gibbs.—On a New empirical Formula for ascertaining the Tension of Vapor of Water at any Temperature ; by J. H. Alexander, Esq.—Observations on some New England Plants, with characters of several new species ; by Edward Tuckerman, A. M.—Descriptions of Shells found in Connecticut, collected and named by the late Rev. J. H. Linsley ; by Augustus A. Gould, M. D.—Results of Analytical Researches in the Neptunian Theory of Uranus ; by Enoch F. Lurr.—Caricography ; by Prof. Dewey.—On Gutta Serena ; by Edward N. Kent.—On Emerald Nickel from Texas, Lancaster County, Pa. ; by Prof. B. Silliman, Jr.—On new Minerals from Texas, Lancaster Co., Penn. ; by Charles Upham Shepard, M. D.—An Account of a Meteorite of Castine, Maine, May 20, 1848 ; by Charles Upham Shepard, M. D.

In the 16th No. there is an article headed "Geology and Mineralogy of the Malay Peninsula" extracted from the *Mining Journal*. This, with the exception of the first two sentences, is wholly made up of paragraphs extracted, without acknowledgement, from the paper on the Physical Geography and Geology of the Malay Peninsula which appeared in this Journal for February, 1848. The *Mining Journal* is one of those periodicals to which we have from the first sent this Journal without any acknowledgement having ever been received, this silent appropriation of our labours being the sole return for our courtesy. We observe too that the *Nautical Magazine* for some months published a succession of articles from this Journal as original. The practice may be a common, but it is not a fair one.

2. *Madras Journal of Literature and Science*, January—December, 1848 (from the Madras Literary Society and Auxiliary Royal Asiatic Society)

Contents :

Geographical and Statistical Memoir of a Survey of the Neilgherry Mountains, under the Superintendence of Captain J. Ochterlony. 1847. [Comm—

nicated by the Chief Secretary to Government].—On the Fresh Water Fishes of Southern India. By T. C. Jerdon, Esq., Assistant Surgeon, Madras Establishment.—Notice of the Scientific Labors of the late Dr Alexander Turnbull Christie, with extracts from his Official Reports submitted to Government.—On the Thermal Springs of Calwa and Mahanandi in the Kurnool province. By Captain Newbold, F. R. S., Mem. of the Philomathique and Geological Societies of France, &c.—Description of a new species of Terrestrial Planaria. By Mr Walter Elliot, Civil Service, with a Plate.—Account of an attempt to form an Artesian Well at Tuticorin. From Official Papers.—Analysis of Mackenzie Manuscripts. By the Rev. William Taylor.—Report of the Committee of the Committee of the Agri-Horticultural Society of Madras, for the year 1848. Communicated by Major Reid, C.B., Secretary of the Society.—Meteorological Observations made at the Madras Magnetic Observatory, from January to December, 1848.—Night. By the late Rev. Thomas Halls, A. B.—Notices.—On the Prices of Indian Grains.—Health of Troops in India.—On Atmospheric disturbances throughout the world, and on a remarkable Storm at Bombay, on the 5th of April, 1848.—By Colonel Sykes.—Minerals of Ceylon.—Proceedings of the Madras Literary Society and Auxiliary of the Royal Asiatic Society.

3 Dr Medhurst has sent us the prospectus of a publication which he intends to commence at Shanghai. It is on the same plan as the Malayian Miscellanies which were printed at Bencoolen in 1822, and which we consider a very excellent one, when a constant supply of matter cannot be calculated on. Dr Medhurst's great abilities and acquirements are too well known to need any assurance from us that whatever papers he may publish will be valuable. As we have failed to attract contributions to this Journal from China, we are glad that a medium will now be furnished in that country itself for illustrating those numerous interesting subjects mentioned by Dr M. with which we are so imperfectly acquainted. We shall be happy to receive the names of subscribers, and as the best means in our power of seconding Dr Medhurst's project, we subjoin his prospectus at length.

In the press, and speedily will be published, the first number of a

CHINESE MISCELLANY,

To be followed in succession by other numbers, Designed to illustrate the Government, Philosophy, Religion, Arts, Manufactures, Trade, Manners and Customs, History and Statistics of China, edited by W. H. MEDHURST, Sen,

The above work is intended to be, as its name imports, a miscellaneous collection of original articles, treating on China, published as matter may be furnished, without reference to the order of subjects; but designed, after the work has made considerable progress, to be collected together into volumes, arranged according to the things treated of. For this purpose, each article will be paged and titled separately, so that the various numbers can be transposed and bound up, in any way the purchasers may think proper. The articles will not be of equal length; they may amount either to a single sheet or twenty, as the case may be; or the same subject may be alluded to repeatedly, in various numbers, as new matter may be furnished, or the importance of the subject may demand. In order, however, to insure definiteness as to expense, the price will be ten cents per sheet of 16 pages, or 160 pages for a dollar. This

sum is now stated, from the consideration that, owing to the small number of foreign residents in China, only a limited sale will be obtained. Should the demand increase, however, the price will be proportionably lowered, or the amount of letter-press increased. It is contemplated, at present, that the quantity of matter published annually will not exceed 500 pages: it may not even amount to that; so that the cost, unless the work be enlarged, will not exceed three dollars annually. The profits arising from the sale will be devoted to Missionary objects.

It is not intended that the projected work should assume the form of a periodical, either as it regards the size of each number, or the time of its appearance. The Editor will use his utmost endeavours to supply a succession of articles from time to time, but his numerous other engagements will not allow of his binding himself to produce a certain number of pages in a given period. He would be glad, however, of the assistance of others; for which purpose he invites the aid of those whose studies have rendered them familiar with Chinese matters. The Miscellany will not be devoted to detailing the news of the day, neither will the Editor feel himself bound to insert every paper sent to him, that may be designed to express the views and feelings of individuals, on any particular question; but simply to publish what may tend to illustrate the subjects specified at the head of this prospectus. It is not designed, likewise, to occupy its pages with reprints, detailing information already before the public, except in the form of quotations, or with the view of suggesting further remarks.

Should no matter be furnished, no leisure be denied, the work may be discontinued after the appearance of a few articles; on the other hand, should numerous pens be engaged in writing for the Miscellany, it may be continued until it comprises volumes. In any case, however, the Editor will not be blamed for not carrying on what he has not bound himself to perpetuate, nor the public be called upon to pay for what is not continued to be delivered to them.

The first number will consist of a "Glance at the Interior of China, obtained during a Journey through the Silk and Green Tea districts," to be followed by treatises on the various products of China.

Persons wishing to become subscribers will be kind enough to send their names to the Editor in Shanghai; to the Revd. Dr Legge, Hongkong; Dr Hobson, Canton; or the Revd A. Stronach, Amoy.

MISCELLANEOUS NOTICES, CONTRIBUTIONS AND CORRESPONDENCE.

MR BURNS'S PAPER ON THE KAYANS OF THE N. W. OF BORNEO.

Sarawak, 24th April, 1849.

TRUTH and justice alike demand the following strictures on Mr Burns's paper on the Kayans of the North West Coast of Borneo which appeared in your journal of last February.

Extended enquiry has gone to prove that the aboriginal tribes of the interior of Borneo differ greatly one from another, and it is stated in Captain Keppel's work vol. 2 p. 194, that "as they differ not only in name but in customs and manners, we will in the first instance mention the various distinct nations, the general locality of each and some of their distinguishing peculiarities."

Mr Burns, however, with this sentence before him, accuses a virtuous and truthful gentleman and divine, of "*slander*" because he had made some statements (proved to be correct) on the Kayans of a distant part of Borneo which differed from the observations made by Mr Burns himself.

The authority of Mr Hupé you have remarked in your note is unexceptionable, and surely, Sir, the friends of that gentleman may justly and publicly demand the retraction of a charge so rashly and groundlessly advanced, or retort the term, and regret that your valuable journal should be made the medium of personal abuse.*

Mr Burns has himself differed from Mr Dalton on various subjects, and your next hasty and petulant contributor will doubtless accuse this gentleman of a gross dereliction of moral principle because some people in some part of Borneo differ from the people visited by Mr Burns.

{Mr Burns is not content however with imputing "*slander*" to an innocent person and correct observer, but proceeds likewise to attack others in the following passage:—"the head hunting mania so *extravagantly* spoken of by *Sarawak historians* does not exist among the Kayan people, nor are the heads of their enemies more valued by

* We not only declared Mr Hupé's authority to be unexceptionable but greatly modified Mr Burns' remarks, and supplied the corrective, by citing Mr Waller in confirmation of Mr Hupé's statement.—*Ed.*

them than were such trophies by the warriors of Europe during the reign of feudalism, and heads if taken in battle are merely considered as trophies as were the scalps of the North American Indians."

As we are dealing only with Mr Burns's delinquencies, we need do no more en passant than confess our own ignorance of any period of European history when the iron clad warriors of Europe preserved four hundred heads in a house, and threw them away only to procure and preserve others. The writers on Sarawak are only two in number, and quoting from the principal historian of that country, we must request Mr Burns to reconcile his accusation of exaggeration with the following passages from the pamphlet published by Sir James Brooke in 1840, and from Captain Keppel's work.

At page 19 of this pamphlet Sir James writes "The head hunting, or taking the heads of their enemies is a feature in warfare by no means new or extraordinary, and, similar to the scalping of the North American Indian, is a trophy of victory and prowess. Amongst the Hill Dyaks this custom is confined entirely to the heads of enemies, and is the effect and not the cause of war; their wars are by no means bloody, and are never carried on but by small companies who enter on the enemies ground and lay in ambush for parties or individuals of their foes. The *exaggerated accounts of some travellers* have been drawn from the more savage and predatory tribes of the coast, but these tribes have forsaken their original customs and have joined piracy to their former practice of taking heads and they are not different from other pirates who destroy as well as plunder." Had Mr Burns copied this passage he could not more minutely have confirmed the statement of Sir James, the only difference being that the latter gentleman has drawn a distinction between the predatory and non-predatory tribes which the former has ever looked.

Should Mr Burns doubt the justice of this distinction a visit to Serebas or Sakarran will readily and practically convince him that these people are eager Head takers.

In vol. 1st, page 55, of Captain Keppel's work is the following passage from the journal of Sir James Brooke written in 1839—"Like the rest of the Dyaks the Sibuyows* adorn their houses with the heads of their enemies; but with them the custom exists in a modified form and I am

* Misprinted in the original Sibuwans.

led to hope that the statement already made public of their reckless search after human beings merely for the purpose of obtaining their heads will be found to be exaggerated if not untrue, and that the custom elsewhere as here and at Lundu, will be found to be more accordant with our knowledge of other wild tribes, and to be regarded merely as a triumphant token of valour in the fight or ambush; similar indeed to the scalps of the North American Indian."

Again vol. 2 p. 197—"The tribes of Serebas and Sakarran, whose rivers are situated in the deep bight between Tanjong Sipang and Tanjong Sirik, are powerful communities and dreadful pirates who ravage the coasts with large fleets and murder and rob indiscriminately; *but this is by no means to be esteemed a standard of Dyak character.*" We would again ask Mr Burns to reconcile these passages with his charge of exaggeration and we may remark that he has studied these works either *too little* or *too much*.

Mr Low the only other *Sarawak historian*, in a work replete with valuable information though compiled in haste, draws the same broad distinction between the predatory tribes of Serebas and Sakarran and the other Dyaks of the N. W. Coast. In writing of Serebas and Sakarran he says "The passion for Head hunting which now characterizes these people was not formerly deeply rooted as at present" and he adds—"In a limited extent the custom is probably as ancient as their existence as a nation."*

At page 303 of his work Mr Low states that "the custom of head taking as it has been before noticed is not so deeply rooted in the habits of those people as to prevent our hope of its being easily eradicated though amongst the sea Dyaks it will probably be long before this desirable result be obtained."

Does Mr Burns detect any discrepancy or extravagance in these statements, or can he point out in the works of the only two gentlemen who have written of Sarawak any passages to justify him in using the term "extravagant" to persons far better informed and far more experienced than himself?

Although the Malays of Borneo differ as much one community from another as the Dyaks, yet Mr Burns, who is evidently fond of abusive terms, has decided on the experience of a few months, that they are all "mongrels" "atrocious" and "servile." Will he explain how they are more "mongrels" than the British? What peculiar atrocities have

† *Sarawak* p. 188.

come under his own observation? and above all what acts of "servility" the Malays have been guilty of, for he certainly is the first writer to our knowledge that has even represented "servility" as a vice of the Malayan-character.

One other point of somewhat more general interest than the preceding which is asserted in Mr Burns's paper, may here be slightly commented on. He states the population of the countries he visited to amount to seven thousand persons,* and he speaks in rather magnificent terms of his exalted friends and relatives the three great chiefs Kam Lasa, Kam Nipa and Batu Dian, besides several other inferior chiefs. Now if we divide the amount of the total population by six to obtain the number of fighting men we shall find the Kayan warriors to be 1,160 in number, and if we deduct 266 of these as the following of the inferior chiefs, it will leave a grand total of 300 fighting men for each of the three renowned Kayan Rajahs Kam Lasa, Kam Nipa and Dian Batu.

These are the conquerors! the suzerain lords of Malayan towns! Kam Nipa's grand array of three hundred men has withstood the joint tribes of Serebas and Sakarran which at the lowest computation can bring 8,000 fighting men into the field, and in turn have invaded those rivers!! This is the force feared by the Malays of Siriki which could bring 1,000 well armed men against them! These are the people who have attacked Muka and Oya and who have captured Pulo, Matu Meri and other places!!! This is indeed "*Parturent montes nasciter ridiculus Mus.*" This statement is not only improbable in the highest degree, but next to physically impossible, unless Mr Burns means to exalt every Kayan warrior into an Amadis de Gaul or an Orlando Furioso, for certain it is that such small communities, living distant one from another, could not withstand the incursion of the Serebas and Sakarran, and that long since they would have become subject to the "atrocious" Malays of the coast who are as fond of becoming conquerors as the Kayans themselves. It will be nearer the truth (and what Mr Burns probably meant) to state the fighting men at 7,000, and certain it is that Kum Nipa alone has offered to bring 100 boats to Siriki in order to attack Serebas, and as these boats carry on an average 20 men each, the total number of Kum Nipa's following may be reckoned at about 2,000 men.

Mr Dalton stated the Kayans amongst whom he lived to

* Mr Burns never having visited Barroon his statement of the population is of small value.

amount to 270,000 souls, and that they were greatly addicted to head hunting, and many natives intimately acquainted with the Kayans all give evidence to the interior parts of Borneo being populous, and it would be difficult to conceive how a small body could drive the aboriginal inhabitants before them unless possessed of superior arms, which the Kayans are not.

I here take leave of Mr Burns without applying to him the abusive terms he has so liberally bestowed on others, but it is alike self respect and the respect due to your valuable journal which have induced forbearance; but as in the same journal he has accused an amiable and absent gentleman of "slander" and two other gentlemen of giving to the public "extravagant statements" it was due not only to the accused but to your readers to prove that there is no foundation for Mr Burn's assertions, which may be treated with a smile or a frown as a person may lean either towards the Epicurean or Stoic philosophy.

Truth and justice demanded thus much—but further than this it would be waste of time and reason to pursue the topic,

"To waft a feather or to crush a fly."

A FRIEND TO THE ABSENT.

THE SINGAPORE OBSERVATORY.

[In a note to Dr Little's paper on the Medical Topography of Singapore (Vol. II p. 461) we stated that the tables of observations made at the Singapore Magnetic Observatory alluded to and used by Dr Little, would be afterwards published at length accompanied by the Observer's notes. Some of these notes were in our possession at the time, but the tables themselves after being returned by Dr Little to the Observer were carried away by him for the purpose of continuing his notes, and in the course of his magnetic voyage through the Archipelago were mislaid or lost. Subsequent want of leisure and indisposition prevented his supplying the loss until lately, but we have now the pleasure to inform our readers that we have received a considerable portion of tables and curves, which we shall begin to publish as soon as our lithographic press arrives. Our correspondent writes, "I have made out all the tables with a very great degree of trouble; they comprise observations for 5 years, 1st of the Thermometer, giving the temperature; 2ndly of the Wet Bulb, giving the moisture; and 3rdly of the Barometer, giving the pressure; thus you have the most important elements of meteorology. With respect to the quantity of rain, the pressure of the wind, and the most interesting as well as the most easily understood of the magnetic phenomena, I will forward them to you in another paper. - - - Although a period of 5 years observations appears to me scarcely sufficient to determine the climate of a station, yet the instruments have really so little range that one year pretty nearly certifies another. In the barometer the regularity of the curve is perfectly wonderful." The comments which follow on some remarks made by Dr Little and ourselves with reference to the position of the Thermometer in the Observatory, we give at once and separately. Our correspondent in a previous letter appealed to our sense of justice to insert his vindication of the entire correctness of his thermometrical tables, and as he appears to consider the remarks in question as very uncalled for, objectionable in manner, and as reflecting on his performance of an official duty, we cannot hesitate in publishing it, although we regret that he should have so greatly misconceived the spirit in which the remarks were written, and adopted a tone of criticism somewhat more belligerent than the occasion requires, or is quite consistent with the manner appropriate to a Journal which has no object but the ascertainment of facts and the spread of truth. The point in dispute is a simple

one, requiring no very recondite knowledge to understand it, and which it is most desirable should be fully and candidly discussed. We therefore hope that if either Dr Little or our correspondent desire to continue the discussion, they will stick to facts and inferences, and not tilt at each other. We allow full freedom of debate, but we cannot overlook the risk of personalities, however good humoured, sometimes verging on asperity. We need hardly inform our local readers that our correspondent, although he chooses to be nameless here, is not a mere Unibra, but one of the best as well as cleverest men in India.—ED.]

I should not have made any remarks on Dr. Little's paper did I not know that you forwarded your journal to several scientific Societies, and some of the members may imbibe totally erroneous opinions regarding my observatory and the trustworthiness of the observations.

What the writer says on the subject of my observatory I will here quote, and subjoin any remarks I may have to make on the subject. Dr. Little writes "The observations taken at the Singapore Observatory during the years 1841, 42, 43, 44 and 45, were conducted in a building situated at the distance of a mile from the centre of the town, having no house contiguous (1) and built on the bank of a river subject to tidal influence. It was half a mile from the sea, from which it was separated by a mangrove swamp, houses and cocoanut trees. Towards the land (2) it was clear of jungle and cultivation, the alluvial soil being sand with a clay bottom. The Thermometer was placed in a circular box in a centre (3) room well ventilated, but not exposed to air currents (4) or the sun's radiation (5). This building was of brick 18 inches thick, and surrounded by a wood verandah (6) the roof being composed of attap and a ceiling of planks. In estimating the correctness of the following observations the reader must bear in mind the conditions in which the thermometer was placed (7). It indeed most accurately showed the atmosphere of a room in that building (8). but not the atmosphere of that locality (9), for, in the first place, the building prevented all currents of air from affecting the temperature (10) which in this country are the means of reducing the temperature (11). As well might we judge the temperature of a country by observations taken in a deep dell (12) surrounded by hills. In the second place the brick walls while they absorbed the heat by day radiated the same by night,

therefore the thermometer would not rise to its proper altitude, nor fall sufficiently at night (13). The mean of the observations taken at this observatory will be correct but the maxima and the minima will be found to differ from those of all other observers (14). To estimate correctly the temperature of the atmosphere a circular (15) building should be constructed with a roof of atap and a ceiling of planks having no walls, and from the centre the thermometer ought to be hung."

Note by the Editor.—"The defects (16) of the Observatory for thermometrical registers are obvious but perhaps not so great as our contributor considers (17). The atmosphere is decidedly affected by the building, which is a Magnetic Observatory (18). The monthly tables which we have given for some time show a considerable difference in the maxima and minima (19). The position of the thermometer is much better than that in the Observatory (20) but not free from objections (21)."

Remarks.

- (1) Except my house
- (2) Dr. Montgomerie's and Mr Bolestier's plantations were both on the land side with mangrove jungle intervening.
- (3) Not a centre room but a room facing the north or land side, with three windows on the northern face, one of which, the centre one, was always kept open
- (4) A current of air was always passing through the room, though the bulb of the thermometer was not directly exposed to it.
- (5) I should rather think not.
- (6) The building was not surrounded by a wooden verandah, but the verandah was open and was of use in modifying the currents, in preventing reflection from the ground, and likewise the sun's rays from penetrating the room during the time the sun had northern declination.
- (7) It is a pity the writer himself did not bear in mind the conditions, for then we should not have heard of centre rooms and wood verandahs which existed nowhere but in the writer's imagination.
- (8) This is really most important if true.
- (9) This dogmatic assertion comes from a person who never was in the Observatory but once, and then after his paper had been written.
- (10) Of course if there had been a centre room and a wooden verandah.

(II) Has Dr. Little never heard of a hot current of air, and if he has, would it, does he think, have the effect of reducing the temperature?

(12) Why not a deep well, for truth lies at the bottom of one; but what analogy is there between a deep dell surrounded by high hills and my observatory? In the former case there is no circulation of air and great reflection from the sun's rays during the heat of the day. In my observatory a gentle current of air was always passing through the building, and the verandah protected the building from direct rays and reflection from the sandy soil.

(13) This is perfectly unintelligible to me. If the brick walls absorbed the heat by day and radiated the same by night, the thermometer would rise during the day and fall at night, the very reverse of what the Doctor states. If my observatory had been tiled, then, in consequence of the greater absorption of heat during the day, the thermometer would have risen, and by radiation at night it would have fallen. The whole sentence is inexplicable, and if the Editor had taken exception to this passage—it might have been as well.* I have always considered myself that a brick wall heated would have the effect of raising the temperature.

(14) Most undoubtedly. If observers consider that 95° is any thing like the maximum temperature at Singapore and publish such observations as matter of fact†, when

* We are so obtuse as to consider our correspondent's criticism somewhat inexplicable, unless we view it as a play at cross purposes. Dr. Little's sentence, on the other hand, though not expressed with mathematical rigour, is sufficiently clear, and moreover appears to us to be founded on fact. The walls and ceiling (and we may add the floor in a still greater degree) during the day presented a cool surface to the air entering the room,—that is a surface cooler than the air itself,—and consequently reduced its temperature, or partially absorbed its heat. At night, instead of being internally at a lower temperature than the air entering the room, they retained a higher, owing to the quantity of heat which they had absorbed during the day. The external air on entering the room was therefore raised in temperature by the heat communicated by the wall. Now whatever our correspondent's object may have been, that of Dr. Little was to ascertain the temperature of the external air, and in availing of the observations made at the Observatory it was necessary to shew how the air in it differed from the open air.—Ed.

† We suppose this is to be taken as a small instalment of what is awaiting us, for Dr. Little has not published such observations. We did, but not as matter of fact, if by that our correspondent means, as expressing the true temperature of the District. What we published as matter of fact was that "Day and night self registering horizontal thermometers (Troughon and Simms) placed in the shade in an open verandah" (ante vol. II p. xii) registered the maxima and minima which we gave. We never maintained that the position of these thermometers was free from objections, as our

the maximum temperature is seldom above 85, and 10° additional may easily be registered in a small circular shed verandah which is neither impervious to the direct nor reflected rays of the sun.

(15) It is delicious to see with what unctuousness the Doctor lays down the law. The building must be circular; this sound Aristotelian, some occult virtue in a circle perhaps, and as Aristotle says a circle has no contraries there is no use in opposing this arrangement. According to the writer there should be no walls, then how does he provide against reflection of the sun's rays, against local currents, and against undue lowering of the thermometer at night by terrestrial radiation? I do not know what the dimensions of the building are, but should not imagine very considerable if constructed solely for a thermometer. If of small size, then I say the Doctor might as well put his thermometer in a six dozen case, place it in the sun, and look out for the maximum temperature of 95°. If the Doctor will but take the trouble he will find that in that small temple of the winds there is a different temperature at every foot of altitude, gradually decreasing from the ground to a certain point, and then increasing upwards from that point to the roof. Has the Doctor laid his finger on the very spot the minimum of this line? To the temperature which his thermometer shows what deduction has he to make for the absorption of heat by the building which is of course communicated to the thermometer and which must be eliminated before the true temperature is deduced? It is this excess which I have attempted to provide against, and to give as nearly as possible the true temperature and by all the means in my power to guard against the absorption of the sun's rays. It was for this reason I made the walls 18 inches thick and painted them white, that, if any of the sun's rays should by accident impinge on the walls, they correspondent appears to do with respect to that which stood in the Magnetic Observatory. We have always admitted that the maxima were greatly influenced by the want of due protection from the indirect action of the sun's rays. But with respect to the minima we believe that they truly registered the actual temperature of the external air. They were suspended *in that air* against a plank wall which soon cools down to that temperature, and an airap roof was interposed between them and the sky. The only sufficient explanation of the fact that these thermometers indicated 6° lower than that at the Observatory ever did, appears to us to be this, that the external air on entering the Observatory was raised several degrees by absorbing heat from the wall &c. We may add that we carried our thermometers to the Observatory to be examined by our correspondent and he appeared to be satisfied they were free from defects.—ED.

should be reflected and not absorbed; it was for this reason I made the ceiling flat and the roof with a good pitch so that between the planks of the ceiling and the attap, which is a non-conductor, there should be a considerable quantity of air which is likewise a non-conductor. The ventilation or the circulation of air was provided for by means which I will subsequently explain.

(16) This note by the Editor is just as positive as any thing the Doctor has asserted, and with as little reason; if the Editor, instead of laying down the law in Commercial Square, would just have taken the trouble to visit the Observatory* he would have seen and judged for himself how unfounded were the assertions which had gone before.

(17) This is breaking my fall and letting me off cheap in the Editor's estimation, pitching in a left hander and then patting me on the back, and saying, I am not such a bad fellow after all.

(18) Dear me! What next? The Magnetic Observatory like a cholera hospital affecting the atmosphere!†

(19) Not at all unlikely.

(20) What charming modesty!

(21) Not free from objections! I should rather think not. Where did the Editor ever find 95° in the shade, such as I find in his registry‡? He must have been taking observations on the sunny side of Commercial Square. Why if it were 95° in the shade instead of seeing my friends con-

* See Note† below.

† Our correspondent, we always understood, was sent here to make magnetic observations, the building was designated a Magoetic Observatory, and we therefore inferred that it had been built as such, and not with a view to thermometrical observations. The nocturnal temperature in it appeared so obviously to be affected by its absorption of heat during the day, that we could not suppose the architect had intended to adapt it for such observations. If we had known that our correspondent had built it with this very object, we need not say that our remarks would have been differently worded, as nothing could be more remote from our intention than the imputation of any blame. If he remains satisfied that the building fully answered his design, it would be presumptuous in us to enter into any discussion with him on the subject. In justice to ourselves we must add that our note was written after we had examined the Observatory in the presence of our correspondent, and that, with the highest respect for his science, skill and experience, we are compelled to retain the opinion that his minima are several degrees too high. The objections to the place where our self registering thermometer was suspended we have always admitted to our correspondent, but he has not accounted for the decided difference not only between our minima, but those of other registers, and his own. Our maxima we are quite satisfied are too high, and we discontinued our registry in June 1848, not being able at the time to remedy the defects of the place where our thermometer is hung, or to find another quite free from objections.—Ed.

‡ See our preceding note.

gregated in the Square at all hours of the day, one half would be driven from Singapore by fits of apoplexy and the other half would be protracting a miserable existence by sitting in their offices with damp towels round their heads.

These observations I have made in justice to myself, and in consequence of the journal being forwarded to scientific Societies. I have been treated in an off hand manner anything but pleasant to my feelings, or I think creditable to those who made such assertions without taking the trouble to verify them*, and if castles in the air must be built by imaginative Doctors with centre rooms and wooden verandahs, let them be built at their expence and not at mine. I was not a dilettanti handling a thermometer once a month and then thinking I knew all about meteorology. I was placed in a certain duty by the Government, and if I failed in that duty on my head falls the responsibility.† I have but two words more to say to the Doctor before I proceed to my observations. He says the average temperature for each month at 6 A. M. and noon, being divided by 2 gives the mean for the month. From what wonderful induction does he deduce this law? If we take the mean of Captain Davis's observations at 6 A. M. and noon we find the following

Captain Davis' observations.

1820	1821	1822	1823	1824	1825
79.5	79.4	80.2	78.8	81.0	81.4

and on referring to the tables I now send I find the following at the same time

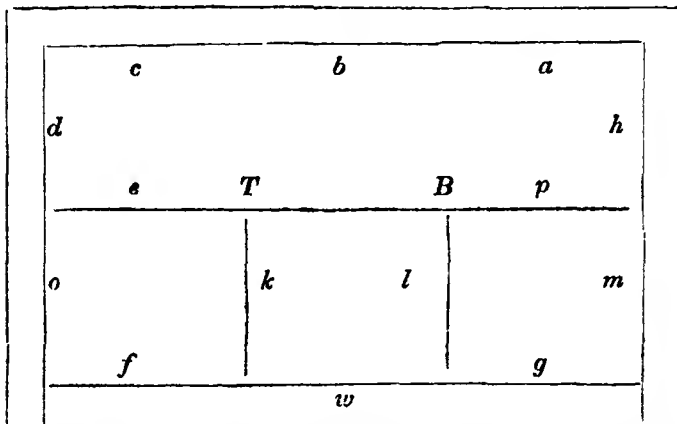
1841	1842	1843
89.2	80.5	80.5

* See our previous note.—Ed.

† Neither Dr Little nor we imputed the slightest failure of duty to our correspondent. For ourselves we were not even aware that the thermometrical observations formed part of his official duty, and even if we had been, surely whatever opinion we may entertain respecting the adaptation of a public building for such observations, and whatever that opinion may be worth, we have a right to express it. It is quite possible for a building to be constructed with great care, and yet the air in it fail to be a perfect index to the temperature of the external atmosphere. We may add that a Thermometrical Observatory which would be free from defects in England, may not be adapted for Singapore, where the heat during the day is comparatively so great, that the very means taken to prevent its absorption by the screen of the thermometer affecting the registered temperature, may prevent this temperature falling to that of the external air at night. A screen so thick and slowly conductive of heat as to afford the perfection of shade during the day, will necessarily, in this climate and latitude, retain a portion of the accumulated heat throughout the whole night. "The absorption of heat due to direct radiation from the sun goes on more rapidly than the dissipation of it

The mean of Captain Davis' 80.2, of mine 80.4, difference 0.2, whilst the Doctor makes them differ by 2°.5 and with these dreadful increments of temperature the Doctor weeps over the probability of Singapore becoming insupportable, as if that could ever be possible, at least I should like to be ordered to remain there until I found it so. I have left out 1844 and 1845 for obvious reasons which I will explain hereafter.

The building in which the observations were taken, will best be explained by the following ground plan. It was 56
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feet in length, by 28 feet in breadth, divided by a partition wall running the whole length. The longer sides faced North and South—the shortest the East and West. In the

by cooling" (Prof Forbes), and hence a screen which absorbs the sun's heat during the 12 hours the sun is above the horizon here without affecting a thermometer placed below it, will not cool down to the temperature of the external air during the succeeding 12 hours. Prof. Forbes, in another of his Meteorological Reports, observes that "from the near contact in which thermometers are generally placed with large difficultly conducting masses, such as walls, the temperature during the night is kept up, and the *minima* are thus too high" (Reports, Brit Association Vol I p 210). Scientific men will best judge how far this source of error was avoided in the construction of the Singapore Magnetic Observatory, as explained by our correspondent further on. We fear they will be unanimous in their opinion that such a building, with a circulation of air so impeded, could never have its internal temperature lowered to the minimum of the atmosphere without. If our correspondent, with all his science and skill, has failed in constructing a perfect observatory, the true conclusion probably is that this is an impossibility, unless we disconnect the Day from the Night Observatory, or at least have two positions for the instrument, one under the thick, badly conducting sun-screen for the day, and one under a thin sky-screen for the night.—Ed.

long room were kept the whole of the Meteorological and Magnetic Instruments,* and no person ever remained in it except to take an observation, nor at night was any light kept burning,—there were 5 glass windows in this room—the middle one marked *b* was always kept open, *a* and *c* but rarely; the shutters of the window *b* facing the East were shut till noon, they were then opened, and those of the window *d* closed. The room *k e o f* was kept for books and the native writer sat there, the door was always kept open as well as the door *e* and likewise the window *f*. The European assistants sat in the hall *k l* and I took for my office the room *g m p l* of which *p* was always kept open with the door *m* the window *g* and the door *l*. Now in this building in which there were 7 windows, 3 were always kept open, and the whole of the doors of which there were 6, and I am told that there was ventilation without due circulation, although, for my part, I cannot see how one can be produced without the other. The verandah was an open one all round except at the S. East and S. West angles which were enclosed. The walls were two bricks thick and fourteen feet high, the verandah or rather the attap roof came down to within 8 feet of the ground—clear of the windows but so as to prevent the direct rays of the sun from striking any part of the walls after 7 a. m. and before 5 p. m. whilst the circulation of air was in no way impeded. The Latitude of the Observatory was $1^{\circ} 18' 38''$ North. The Longitude 6h. 55m. 26s. or $103^{\circ} 56' 30''$ E. of Greenwich.

* T. Thermometer, Dry and Wet Bulb. B. Barometer.

NEW PUBLICATIONS RECEIVED.

The Edinburgh New Philosophical Journal, Nos. 90 and 91 (from Prof. Jameson.)

Want of space this month compels us to omit the list of the very valuable and varied contents of this Journal. A passage in one of the papers however requires notice. This is the Anniversary Address of the President, Dr Prichard, to the Ethnological Society for 1848, in which this Journal is noticed at some length and in terms which must be as gratifying to our contributors as they have been to ourselves. The sentence which requires notice is one in which Dr Prichard alludes to a narrative of "his late excellent and much lamented friend, Mr G. W. Earle, who, if he had survived the voyage on which, to the deep grief of his friends, and

great loss to the cause of science, he has lately perished, would have added much to what he has already contributed towards the history of the native races of the Austral Seas." It will be gratifying to all the personal friends of Mr Earle in England, and that larger class who are acquainted with him through his writings, to be told that we have a letter from Mr Earle now lying before us dated at Malacca the 3rd of this month, in which he says "I have already made a considerable progress in a 'full, true and particular' account of the tribes inhabiting the Timor and Molucca seas, including the West Coast of Papua and North Coast of Australia" which we hope very soon to place before our readers.

2. *Tijdschrift voor Nederlandsch Indie* Nos. 1 and 3 (from Dr van Hoevell)

3. *Indisch Archief* Nos. 1 and 2 (from the Editors.)

4. *Het Regt in Nederlandsch Indie* Nos. 1 and 2 (from the Editors.,

5. *The Chinese Repository* for March and April (from the Editors.)

6. *Warnasari, for 1849* (from the Editor, Mr Deventer.)
—We are delighted to see that this elegant Batavian annual is to continue to be carried on under such good auspices.

7. *Journal of the Agricultural and Horticultural Society of India, Part IV of Vol. VI* (from the Society.)

8. *The Calcutta Christian Observer* (from the Editor.)

TO OUR SUBSCRIBERS.

The present number of the Journal completes its second year, during which we have received the continued and undiminished support of nearly all our Singapore subscribers, and the assistance of many able contributors, several of whom are men of established literary or scientific reputation, while the others may well claim to have laid a good foundation for theirs in the papers with which they have enriched our pages. It is owing to their zealous aid that we can congratulate our supporters on the fact that this Journal has now established itself both in England and America as an authority on matters relating to the Indian Archipelago. We do not draw this inference so much from the highly favorable notices of it which have appeared in leading scientific periodicals and more popular publications or the assurances of correspondents, as from the number of its papers that have been

republished. We do not despair of its circulation being gradually much extended in Europe and America, but the difficulties which have attended all our agencies beyond the Straits Settlements, and particularly our English one, have hitherto caused more trouble, vexation and loss of time and money than the subscriptions received from them (with the exception of the Batavian) have compensated. These difficulties, the insolvencies of former London and Batavian agents, and the frequent postponement of payment for months after the year has commenced, have satisfied us during the past year that our main dependence must be upon our Straits subscribers, and particularly on those at Singapore by whose most liberal support and that of Government alone we were enabled to bring out the first 6 numbers of the year without loss. We think it best to state this at once and leave it in their hands whether the Journal is to be continued on its present footing or not. After mentioning this, we do not think it would be fair to them, nor consistent with our own position and object in relation to the Journal, to make any appeal to them such as we were compelled to do at the close of the first year, or to circulate a subscription list. We think we are justified in considering the Journal as now fairly established, and, as is customary with other periodicals of the kind, our agents will continue to send it to our subscribers until they desire it to be discontinued. Several of our subscribers have repeated the recommendation which they made to us at the end of last year to raise the subscription in future to 6 dollars, and as we find our pecuniary loss on the last 12 numbers will somewhat exceed that upon the previous 12, even if all outstanding subscriptions be paid, we are compelled to adopt this recommendation as the only means of saving ourselves from an annual loss of about 400 dollars.

The paper and typography have not been so good as we could have wished; but new types and better paper are now on their way from England, and in a month or two we hope to be able to present the essays of our kind contributors in a shape that will do them no discredit.



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